

1/47

```

1  GTCTTCCACCATGCACTCGCTGGGCTTCTTCTCTGTGGCGTGTCTCTCTGCTCGCCGCTG
   +-----+-----+-----+-----+-----+-----+
60  CAGGAAGGTGGTACGTAGCGACCCGAAAGAGACACCCGACAAAGAGACGAGCGGCGAC
   M H S L G F F S V A C S L L A A A -
61  CGCTGCTCCCGGTCTCGGAGGCGCCCGCGCGCGCCTTCGAGTCCGGACTCG
   +-----+-----+-----+-----+-----+-----+
120  GCGACGAGGCGCCAGAGCGCTCCGGGCGGCGGCGCGGCGGAGCTCAGGCCTGAGC
   L L P G P R E A P A A A A A F E S G L D -
121  ACCTCTCGGACGGGAGCCCGACGCGGGCGAGGCCACGGCTTATGCAAGCAAAGATCTGG
   +-----+-----+-----+-----+-----+-----+
180  TGGAGAGCCTGCGCCTCGGGCTGCGCCCGCTCCGGTGCCGAATACGTTCTCTAGACC
   L S D A E P D A G E A T A Y A S K D L E -
181  AGGAGCAGTTACGGTCTGTGTCCAGTGTAGATGAACATCATGACTGTACTCTACCCAGAAT
   +-----+-----+-----+-----+-----+-----+
240  TCCTCGTCAATGCCAGACACAGGTCACATCTACTTGAGTACTGACATGAGATGGGTCTTA
   E Q L R S V S S V D E L M T V L Y P E Y -
241  ATTGGAAAATGTACAAGTGTGAGCTAAGGAAAGGAGGCTGGCAACATAACAGAGAACAGG
   +-----+-----+-----+-----+-----+-----+
300  TAACCTTTTACATGTTACAGTCGATTCTCTTCCCTCCGACCGTTGTATTGTCTCTGTCC
   W K M Y K C Q L R K G G W Q H N R E Q A -
   CCAACCTCAACTCAGGACAGAGAGACTATAAAATTGCTGCAGCACATTATAATACAG

```

MATCH WITH FIG. 1B

FIG. 1A

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MATCH WITH FIG. 1A

```

301  -----+-----+-----+-----+-----+-----+-----+-----+-----+ 360
      GGTGGAGTTGAGTTCCTGTCCTCTCTGATATTTTAAACGACGTCGTAATATATGTC
          N L N S R T E E T I K F A A A H Y N T E -
      AGATCTTGAAAAGTATTGATAATGAGTGGAGAAAGACTCAATGCATGCCACGGGAGGTGT
361  -----+-----+-----+-----+-----+-----+-----+-----+-----+ 420
      TCTAGAACTTTTCATAACTATTACTACCTCTTCTTGAGTTACGTACGGTGCCCTCCACA
          I L K S I D N E W R K T Q C M P R E V C -
      GTATAGATGTGGGAAGGAGTTTGGAGTCGCGACAAACACCTTCTTTAAACCTCCATGTG
421  -----+-----+-----+-----+-----+-----+-----+-----+-----+ 480
      CATATCTACACCCCTTCCTCAAAACCTCAGCGCTGTTTGTGGAAGAAATTTGGAGGTACAC
          I D V G K E F G V A T N T F F K P P C V -
      TGTCCGCTACAGATGTGGGGTGTGCTGCAATAGTGAGGGCTGCAGTGCATGAACACCA
481  -----+-----+-----+-----+-----+-----+-----+-----+-----+ 540
      ACAGGCAGATGTCTACACCCCAACGACGTTATCACTCCCCGACGTCACGTA CTGTGGT
          S V Y R C G G C C N S E G L Q C M N T S -
      GCACGAGCTACCTCAGCAAGACGTTATTGAAATTACAGTGCCCTCTCTCAAGGCCCCA
541  -----+-----+-----+-----+-----+-----+-----+-----+-----+ 600
      CGTGCTCGATGGAGTCGTTCTGCAATAAACTTTAATGTCACGGAGAGAGATTCCGGGGT
          T S Y L S K T L F E I T V P L S Q G P K -
      AACCAGTAACAATCAGTTTGGCCAATCACACTTCCTGCCGATGCATGTCTAAACTGGATG
601  -----+-----+-----+-----+-----+-----+-----+-----+-----+ 660
      TTGGTCATTGTTAGTCAAAACGGTTAGTGTGAAGGACGGCTACGTACAGATTGACCTAC
          P V T I S F A N H T S C R C M S K L D V -

```

MATCH WITH FIG. 1C

FIG. 1B

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MATCH WITH FIG. 1B

```

661 TTTACAGACAAGTTCAATTCATTTAGACGTTCCCTGCCAGCAACACTACCACAGTGTC
    -----+-----+-----+-----+-----+-----+-----+
720 AAATGCTCTGTTCAAGTAAGTAATCTGCAAGGACGGTCGTTGTGATGGTGTACACAG
    Y R Q V H S I I R R S L P A T L P Q C Q -
    -----+-----+-----+-----+-----+-----+-----+
721 AGGCAGCGAACAAGACCTGCCCCCAACCAATTACATGTGGAATAATCACAATCTGCAGATGCC
    -----+-----+-----+-----+-----+-----+-----+
    TCCGTCGCTTGTTCTGGACGGGTGTTAATGTACACCTTATTAGTGTAGACGCTACGG
    A A N K T C P T N Y M W N N H I C R C L -
    -----+-----+-----+-----+-----+-----+-----+
781 TGGCTCAGGAAGATTTTATGTTTTCCTCGGATGCTGGAGATGACTCAACAGATGGATTCC
    -----+-----+-----+-----+-----+-----+-----+
    ACCGAGTCCCTTCTAAATAACAAGAGCCCTACGACCTCTACTGAGTTGTCTACCTAAGG
    A Q E D F M F S S D A G D D S T D G F H -
    -----+-----+-----+-----+-----+-----+-----+
841 ATGACATCTGTGGACCAACAAGAGCTGGATGAAGAGACCTGTCAGTGTGTCTGCAGAG
    -----+-----+-----+-----+-----+-----+-----+
    TACTGTAGACACCTGGTTTGTTCCTCGACCTACTTCTCTGGACAGTCAACAGACGCTCTC
    D I C G P N K E L D E E T C Q C V C R A -
    -----+-----+-----+-----+-----+-----+-----+
901 CGGGGCTTCGGCCTGCCAGCTGTGGACCCCAAGAACTAGACAGAACTCATGCCAGT
    -----+-----+-----+-----+-----+-----+-----+
    GCCCCGAAGCCGGACGGTCGACACCTGGGTGTTTCTTGATCTGTCTTTGAGTACGGTCA
    G L R P A S C G P H K E L D R N S C Q C -
    -----+-----+-----+-----+-----+-----+-----+
961 GTGTCTGTAAAAACAACCTCTTCCCCAGCCCAATGTGGGGCCCAACCGAGAATTTGATGAAA
    -----+-----+-----+-----+-----+-----+-----+
    CACAGACATTTTGTGAGAAGGGTCGGTTACACCCCGGTGGCTCTTAAACTACTTT

```

FIG. 1C

MATCH WITH FIG. 1D

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MATCH WITH FIG. 1C

```

V C K N K L F P S Q C G A N R E F D E N -
ACACATGCCAGTGTATGTAAAGAACCTGCCCCCAGAAATCAACCCCTAAATCCTGGAA 1080
TGTTACGGTCACACATACATTTCTTGACGGGCTTTAGTTGGGATTTAGGACCTT
T C Q C V C C K R T C P R N Q P L N P G K -
AATGTGCCCTGTGAATGTACAGAAAGTCCACAGAAATGCTTGTAAAGGAAAGATTCC 1140
TTACACGGACACTTACATGTCTTTCAGGTGTCTTTACGAACAATTTCTCTTCAAGG
C A C E C T E S P Q K C L L K G K K F H -
ACCACCAACATGCAGCTGTTACAGACGGCCCATGTACGAACCGCCAGAGGCTGTGAGC 1200
TGGTGGTTTGTACGTCGACAAATGTCTGCCGGTACATGCTTGGCGGTCTTCCGAACACTCG
H Q T C S C Y R R P C T N R Q K A C E P -
CAGGATTTTCATATAGTGAAGAAGTGTGTCGTGTGCCCTTCATATTTGGCAAAGACCAC 1260
GTCCTAAAAGTATATCACTTCTTACACAGCAACACAGGGAAGTATAACCGTTTCTGGTG
G F S Y S E E V C C R C V P S Y W Q R P Q -
AAATGAGCTAAGATTGTACTGTTTCCAGTTCATCGATTTTCTATTATGGAAAACCTGTGT

```

MATCH WITH FIG. 1E

FIG. 1D

MATCH WITH FIG. 1D

1261 -----+-----+-----+-----+-----+-----+-----+ 1320
TTTACTCGATTCTTAACATGACAAAGGTCAAGTAGCTAAAAGATAATACCTTTTGACACA
M S *

1321 TGCCACAGTAGAACTGTCTGTGAACAGAGAGAGACCCCTTGTGGGTCCATGCTAACAAAGACA 1380
ACGGTGTCATCTTGACAGACACTTGTCTCTCTGGAACACCCAGGTACGATTGTTTCTGT
AAAGTCTGTCTTTCCCTGAACCATGTGGATAAACTTTACAGAAATGGACTGGAGCTCATCTG
1381 -----+-----+-----+-----+-----+-----+-----+ 1440
TTTCAGACAGAAAGGACTTGGTACACCTATTGAAATGTCTTTACCTGACCTCGAGTAGAC
CAAAAGGCCCTCTTGTAAGACTGGTTTTTCTGCCAATGACCCAAACAGCCAAGATTTTCCTC
1441 -----+-----+-----+-----+-----+-----+-----+ 1500
GTTTCCGGAGAACATTTCTGACCAAAAGACGGTTACTGGTTTGTCTGGTTCTCTAAAAGGAG
TTGTGATTTCTTAAAGAATGACTATATAATTTATTTCCACTAAAAATATTGTTTCTGCG
1501 -----+-----+-----+-----+-----+-----+-----+ 1560
AACACTAAAGAAATTTCTTACTGATATATAATAAAGGTGATTTTATAACAAAGACG
ATTCATTTTATAGCAACAACAATTGGTAAACTCACTGTGATCAATATTTTATATCAT
1561 -----+-----+-----+-----+-----+-----+-----+ 1620
TAAGTAAAAATATCGTTGTGTAAACCATTTTGAGTGACACTAGTTATAAAAATATAGTA
GCAAAAATATGTTTAAATAAAAAATGAAAATTGTATTTATAAAAAA
1621 -----+-----+-----+-----+-----+-----+-----+ 1674
CGTTTATACAAATTTTATTTTACTTTTAAACATAAATAATTTTTTT

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FIG. 1E

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1 CGAGGCCACGGCTTATGCAAGCAAAGATCTGGAGGAGCAGTTACGGTCTGTGTCCAGTGT
-----+-----+-----+-----+-----+-----+-----+
71 AGATGAACTCATGACTGTACTCTACCCAGAATATTGGAAAATGTACAAGTGTCAAGCTAAG
-----+-----+-----+-----+-----+-----+-----+
M T V L Y P E Y W K M Y K C Q L R
121 GAAAGAGGCTGGCAACATAACAGAGAACAGGCCAACCTCAACTCAAGGACAGAAGAGAC
-----+-----+-----+-----+-----+-----+-----+
K G G W Q H N R E Q A N L N S R T E E T
181 TATAAAATTGCTGCAGCAATTATAATACAGAGATCTTGAAAAGTATTGATAATGAGTG
-----+-----+-----+-----+-----+-----+-----+
I K F A A A H Y N T E I L K S I D N E W
241 GAGAAAGACTCAATGCATGCCACGGAGGTGTGTATAGATGTGGGGAAGGAGTTTGGAGT
-----+-----+-----+-----+-----+-----+-----+
R K T Q C M P R E V C I D V G K E F G V
301 CGCGACAAACACCTTCTTTAAACCTCCATGTGTGTCCGTCTACAGATGTGGGGGTGCTG
-----+-----+-----+-----+-----+-----+-----+
A T N T F F K P P C V S V Y R C G G C C

FIG. 2A

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361 CAATAGTGGGGCTGCAGTGCATGAACACCAGCAGCTACCTCAGCAAGACGTTATT
N S E G L Q C M N T S T S Y L S K T L F
421 TGAATTACAGTGCCCTCTCTCAAGGCCCAACACAGTAACAATCAGTTTGGCCAATCA
E I T V P L S Q G P K P V T I S F A N H
481 CACTTCCTGCCGATGCATGTCTAAACTGGATGTTTACAGACAAGTTCATTCCATTATTAG
T S C R C M S K L D V Y R Q V H S I I R
541 ACGTTCCTGCCAGCAACACTACCACAGTGTGAGGCAGCGAACAAGACCTGCCCCACCAA
R S L P A T L P Q C Q A A N K T C P T N
601 TTACATGTGGAATAATCACATCTGCAGATGCCCTGGCTCAGGAAGATTTTATGTTTTCCTC
Y M W N N H I C R C L A Q E D F M F S S
661 GGATGCTGGAGATGACTCAACAGATGGATTCCATGACATCTGTGGACCAACAAGGAGCT
D A G D D S T D G F H D I C G P N K E L

FIG. 2B

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```

721  GGATGAAGAGACCTGTCAGTGTGTCTGCAGAGCGGGGCTTCCGGCCCTGCCAGCTGTGGACC
      -----+-----+-----+-----+-----+-----+-----+
      D E E T C Q C V C R A G L R P A S C G P

781  CCACAAAGAACTAGACAGAAACTCATGCCAGTGTGTCTGTGTA AAAACA AACTCTTCCCCAG
      -----+-----+-----+-----+-----+-----+-----+
      H K E L D R N S C Q C V C K N K L F P S

841  CCAATGTGGGCCAACCGAGAATTGTATGAA AACACATGCCAGTGTGTATGTAA AAGAAC
      -----+-----+-----+-----+-----+-----+-----+
      Q C G A N R E F D E N T C Q C V C K R T

901  CTGCCCCAGAAATCAACCCCTAAATCCTGGAA AATGTGCCCTGTGAATGTACAGAAAGTCC
      -----+-----+-----+-----+-----+-----+-----+
      C P R N Q P L N P G K C A C E C T E S P

961  ACAGAAATGCTTGTAA AAGGAAAGAAAGTTCCACCACCAACATGCAGCTGTACAGACG
      -----+-----+-----+-----+-----+-----+-----+
      Q K C L L K G K K F H H Q T C S C Y R R

1021 GCCATGTACGAACCGCAGAGGCTTGTGAGCCAGGATTTTCATATAGTGAAGAAAGTGTG
      -----+-----+-----+-----+-----+-----+-----+
      P C T N R Q K A C E P G F S Y S E E V C

```

FIG. 2C

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1081 TCGTTGTGTCCTTCATATTGGCAAGACCACAAATGAGCTAAGATTGTACTGTTTCCCA
-----+-----+-----+-----+-----+-----+-----+
R C V P S Y W Q R P Q M S

1141 GTTCATCGATTTTCTATTATGGAAAACTGTGTGGCCACAGTAGAACTGTCTGTGAACAGA
-----+-----+-----+-----+-----+-----+-----+
-----+-----+-----+-----+-----+-----+-----+
1201 GAGACCCTTGTGGTCCATGCTAACAAAGACAAAAGTCTGTCTTTCCTGAACCATGTGGA
-----+-----+-----+-----+-----+-----+-----+
-----+-----+-----+-----+-----+-----+-----+
1261 TAACTTTACAGAAATGGAAGCTGAGCTCATCTGCAAAAGGCCCTCTTGTAAGACTGGTTTT
-----+-----+-----+-----+-----+-----+-----+
-----+-----+-----+-----+-----+-----+-----+
1321 CTGCCAATGACCAACAGCCAAGATTTTCCTCTTGTGTGATTCTTTAAAGAATGACTATA
-----+-----+-----+-----+-----+-----+-----+
-----+-----+-----+-----+-----+-----+-----+
1381 TAATTTATTTCCACTAAAAATATTGTTTCTGCATTCTTTATAGCAACAACAATTGGT
-----+-----+-----+-----+-----+-----+-----+
-----+-----+-----+-----+-----+-----+-----+
1441 AAACTCACTGTGATCAATATTTTATATCATGCAAAATATGTTTAAATAAATGAAAA
-----+-----+-----+-----+-----+-----+-----+
-----+-----+-----+-----+-----+-----+-----+
1501 TTGTATTATAAAAAAATAAAAAA
-----+-----+-----+-----+-----+-----+-----+

FIG. 2D

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```

1          50
Pdga .MRTLACLL LCCGYLAHVL AEEAEIPREV IERLARSQIH SIRDQLRLE
Pdgb MNRCWA.LFL SLCCYLRLVS AEGDPIPEEL YEMLSOHSIR SFDDLQRLH
Vegf .....MNFLL SWHWSLALL LY..... LHHAKWSQA
Vegf2 .....MTV LYPEYKMYK CQ..... LRKGGWQHIN

51          100
Pdga IDSVGSEDSL DTSRAHGVH ATKHVPEKRP LPIRRKRSI. ....EEAVP
Pdgb GDP.GEEDGA ELDLNMTRSH SGCELES... .LARGRRSLG SLTIAEPAMI
Vegf APMAE..... GCGQ NHHEVVKFMD .VYQR.....
Vegf2 REQANLSRT EETIKFAAH YNTEILKSID NEWRK.....

101          150
Pdga AVCKTRTVIY EIPRSQVDPT SANFLIWPPC VEVKCTGCC NTSSVKQPS
Pdgb AECKTRTEVF EISRRLLDRT NANFLWPPC VEVORCSGCC NNRNVQCRPT
Vegf SYCHPIETLV DIFQEYPDEI ..EYIFKPSC VPLMRCCGCC NDEGLECVPT
Vegf2 TQCMPREVCI DVGKEFGVAT ..NTFFKPPC VSVYRCGGCC NSEGLQCMNT

151          200
Pdga RVHHRSVKVA KVEYVRKKPK LKEVQVRLEE HLEQAC..... AT.....
Pdgb QVQLRPVQVR KIEIVRKKPI FKKATVTLED HLACKC..... ETVAAARPVT
Vegf EESNITMQIM RIK.PH..QG QHIGEMSFLQ HNKCECRPKK DRARQEKKS
Vegf2 STSYLSKITLF EIT.VPLSQG PKPVTISFAN HTSCRCMSKL DVYRQVHSII

```

FIG. 3A

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```

201          TSLNPD YREEDTDVR.          ..... DKTALKETLC
Pdgha .....
Pdghb RSPGCSQEQ AKTPQTRVTI RTVRVRPPK GKHRKFKHTH .....
Vegf  RGK ..... GKQKRKRK KSRYSWSVY VGARCCCLMPW SLPCPHP ...
Vegf2 RRSPLPATLPQ CQAANKTCPT NYMNNHICR CLAQEDFMFS SDAGDDSTDG
250

251          .....
Pdgha .....
Pdghb A ..... CSE RRKHLFVQDP QTCKCCKNT
Vegf  CGP .....
Vegf2 FHDICGPNKE LDEETCQCVC RAGLRPASCG PHKEL...DR NSCQCVCCKNK
300

301          .....
Pdgha .....
Pdghb .....
Vegf  DSRCKARQ LELNERTCRC DKPRR.....
Vegf2 LFPSQCCANR EFDENTCQC VCKRTCPRNQ PLNPGKCACE CTESPOKCLL
350

351          .....
Pdgha .....
Pdghb .....
Vegf  .....
Vegf2 KGKKFHHQTC SCYRRPCTNR QKACEPGFSY SEEVCRCPVS YWQRPQMS
398

```

FIG. 3B

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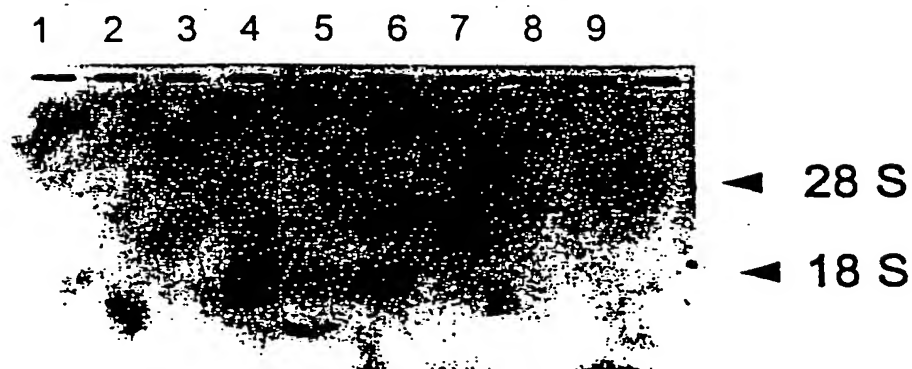
PERCENTAGE (%) OF AMINO ACID IDENTITIES BETWEEN EACH PAIR OF GENES IS SHOWN IN THE FOLLOWING TABLE				
	PDGF α	PDGF β	VEGF	VEGF2
PDGF α				
PDGF β	48.0			
VEGF	20.7	22.7		
VEGF2	23.5	22.4	30.0	

FIG.4

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BEST AVAILABLE COPY

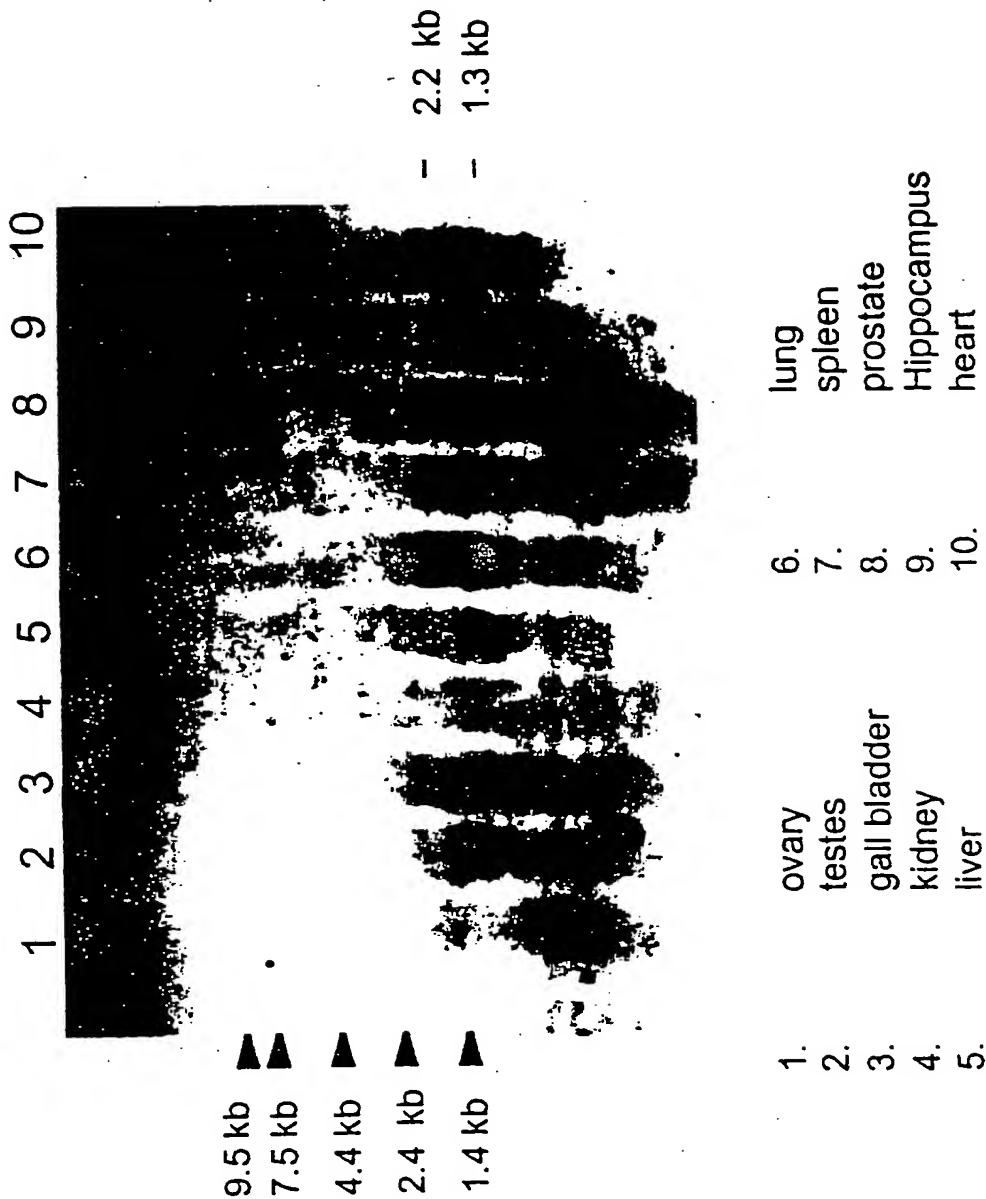
**Expression of VEGF2 mRNA in
Human Breast Tumor Cells**



Lane 1. normal breast tissue
Lane 2. breast tumor tissue
Lane 3-9. breast tumor cell lines.

FIG.5

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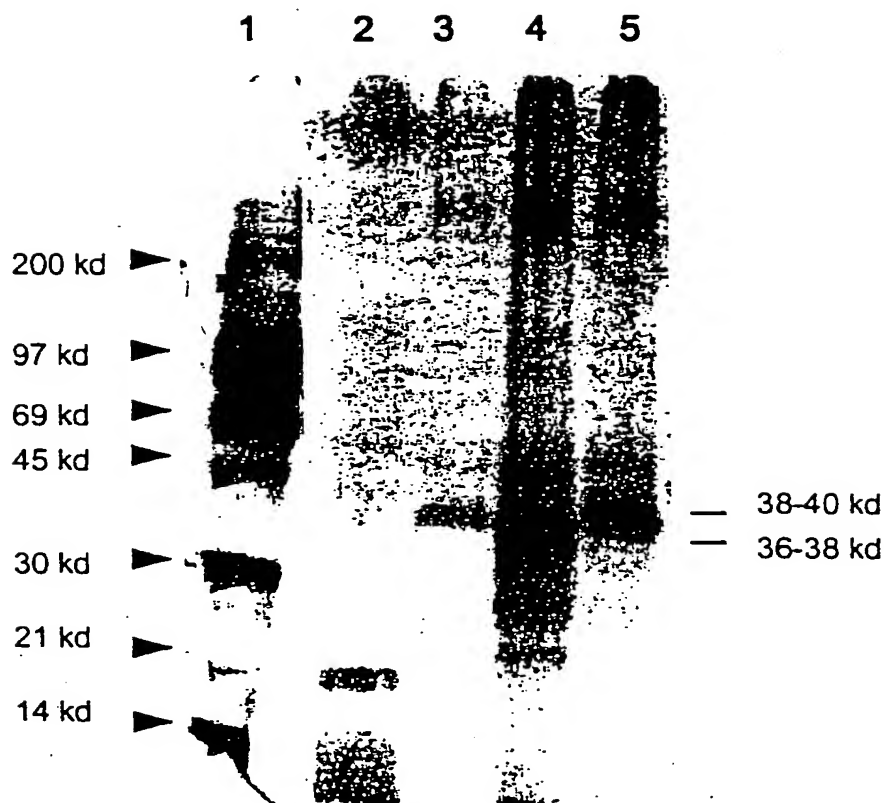


Expression of VEGF2 mRNA in human adult tissues.

FIG.6

BEST AVAILABLE COPY

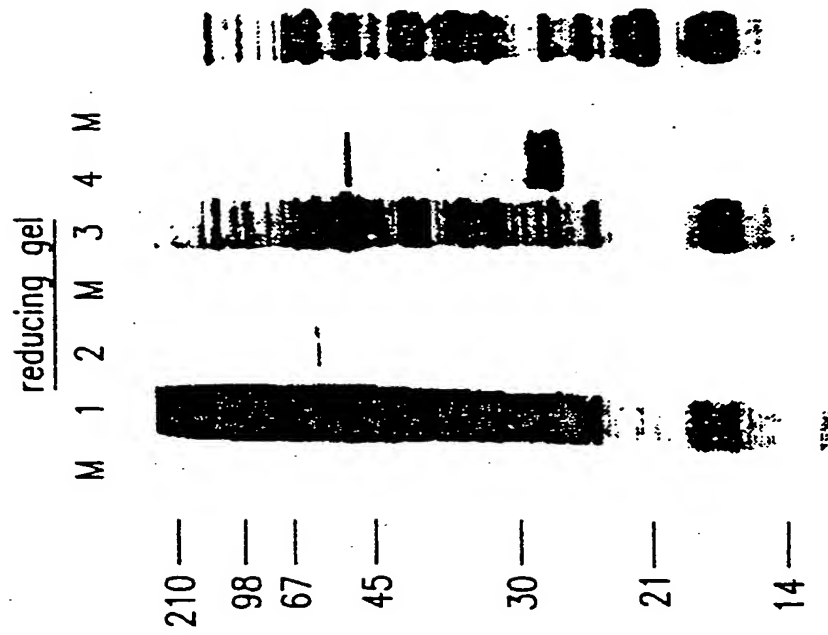
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Lane 1: 14-C and rainbow M.W. marker
Lane 2: FGF control
Lane 3: VEGF2 (M13-reverse & forward primers)
Lane 4: VEGF2 (M13-reverse & VEGF-F4 primers)
Lane 5: VEGF2 (M13-reverse & VEGF-F5 primers)

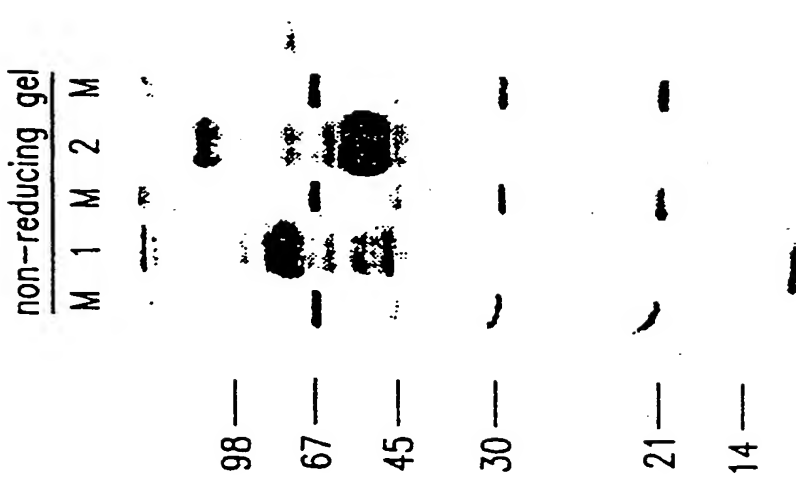
FIG.7

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Lane M: Marker
Lane 1: vector Cytoplasm
Lane 2: vector medium
Lane 3: VEGF2 Cytoplasm
Lane 4: VEGF2 medium

FIG.8B



Lane M: Marker
Lane 1: vector medium
Lane 2: VEGF2 medium

FIG.8A

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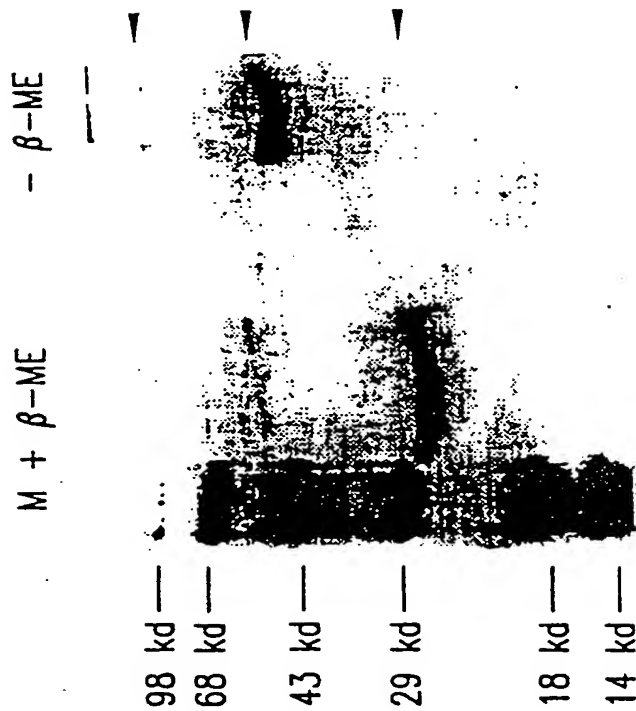


FIG.10



FIG.9

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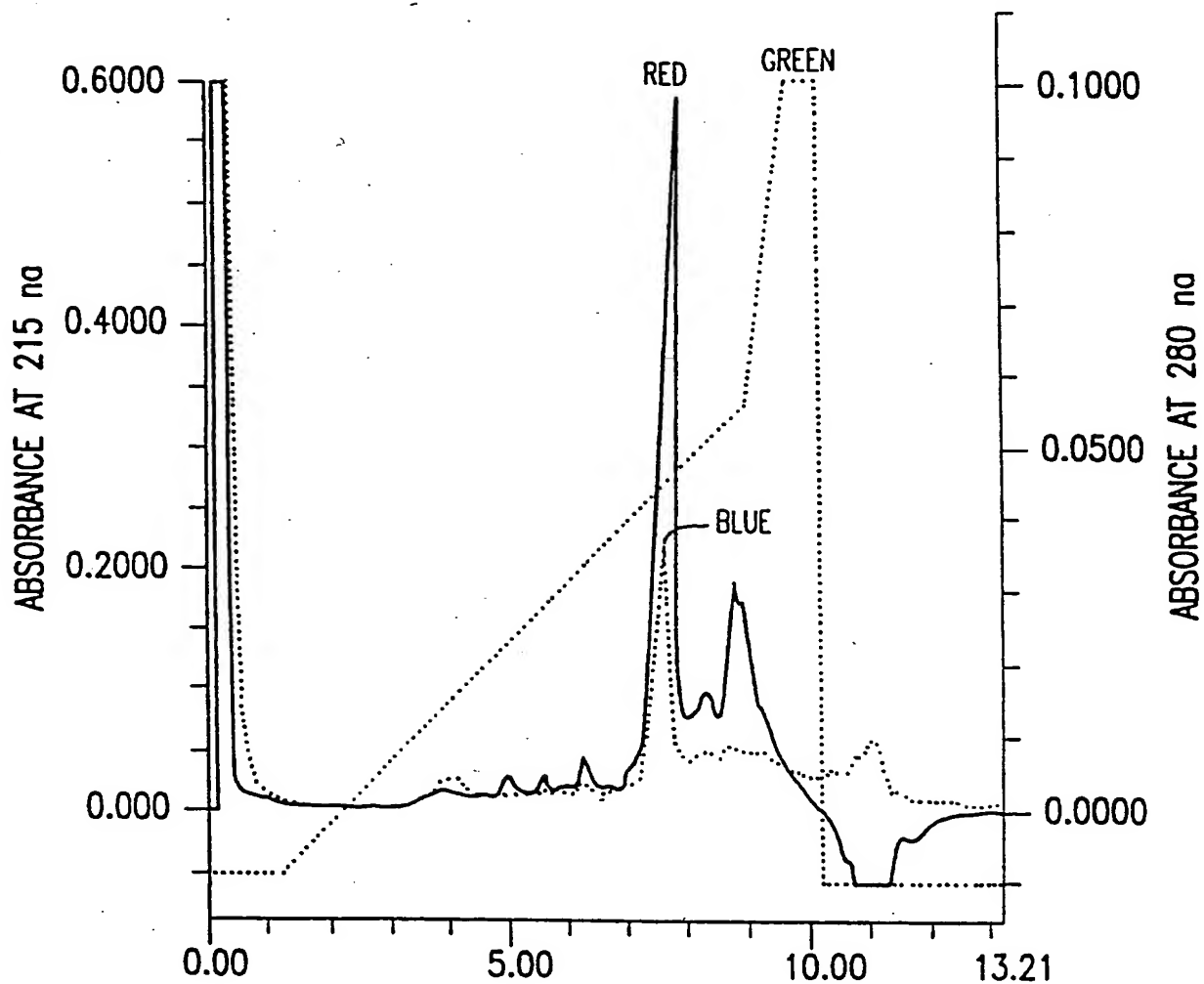


FIG. 11

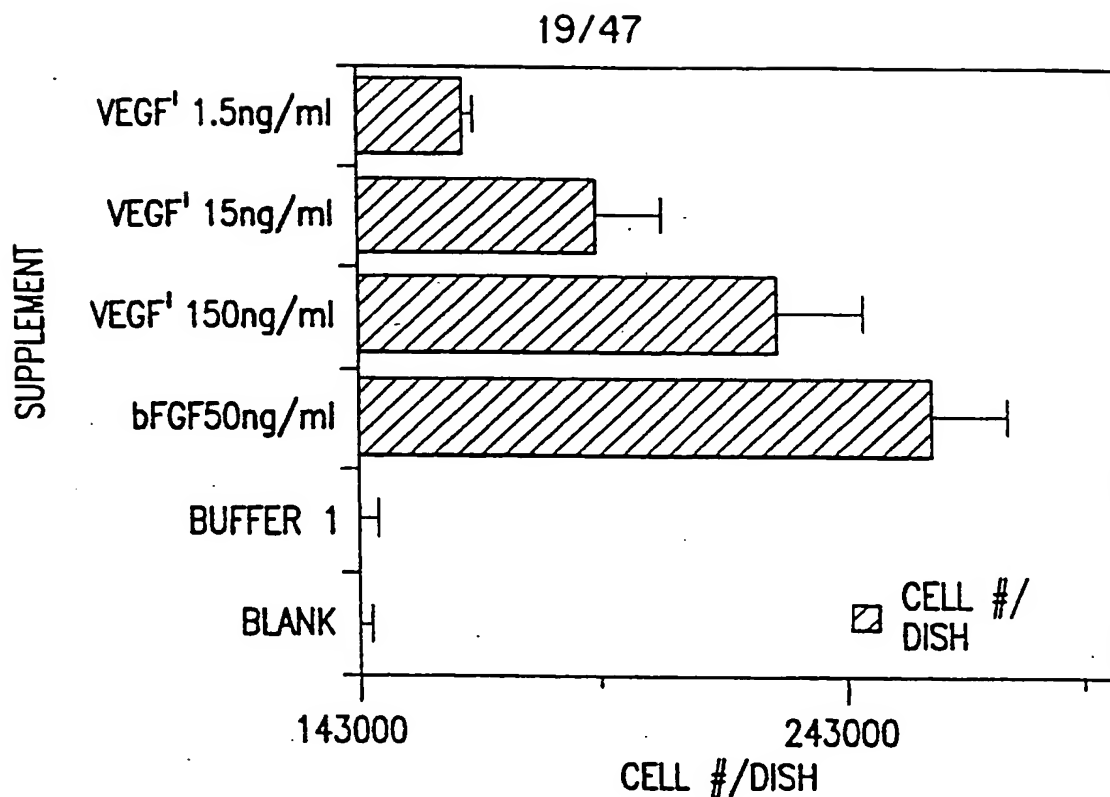


FIG.12

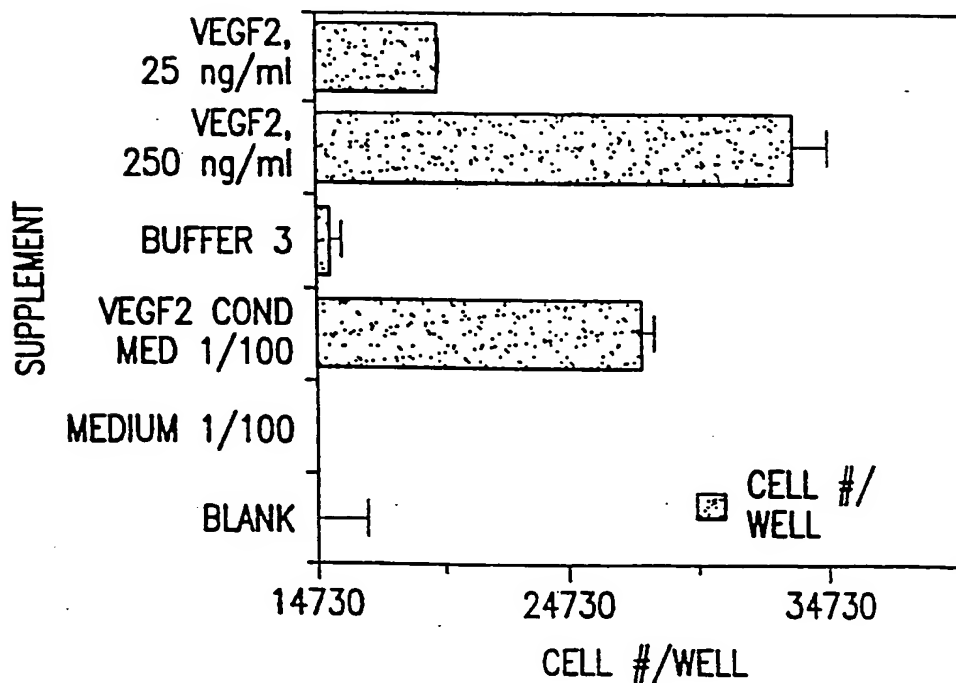


FIG.13

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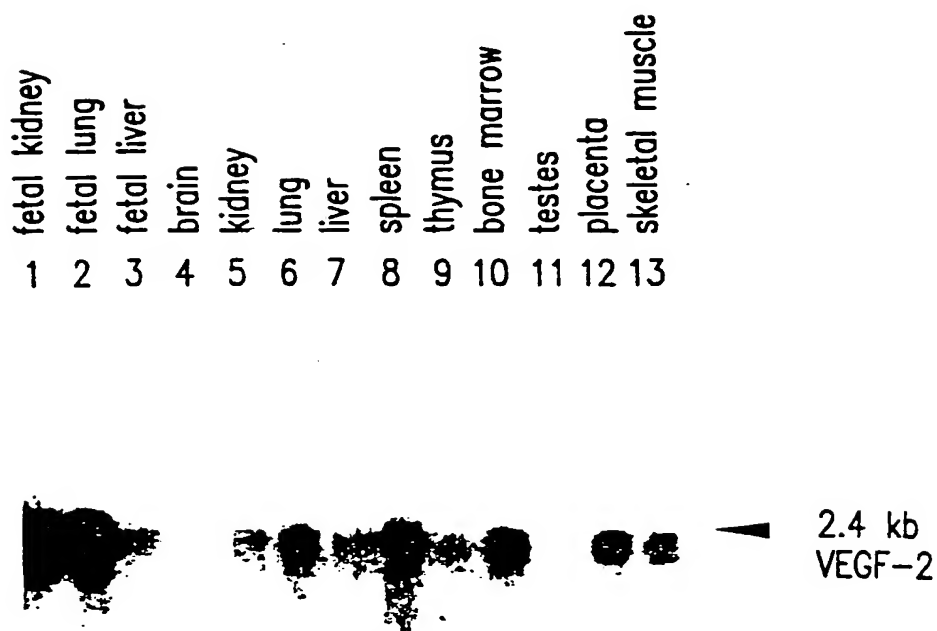


FIG.14A

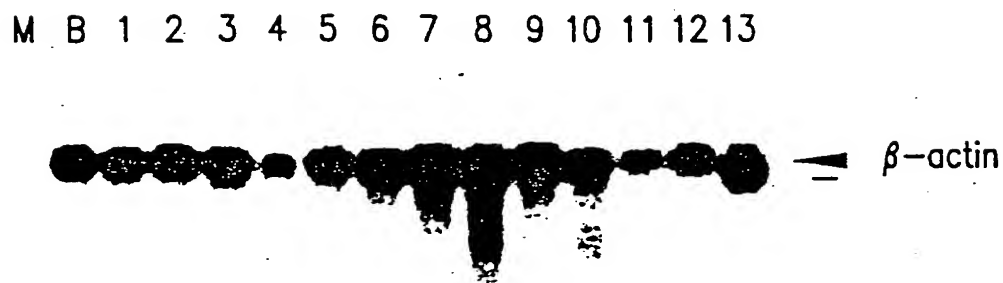
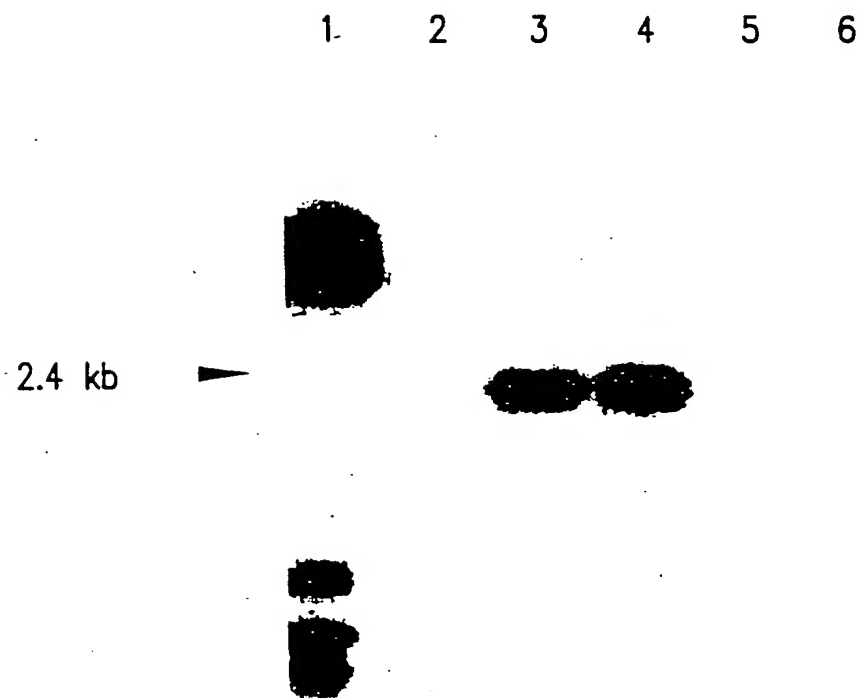


FIG.14B

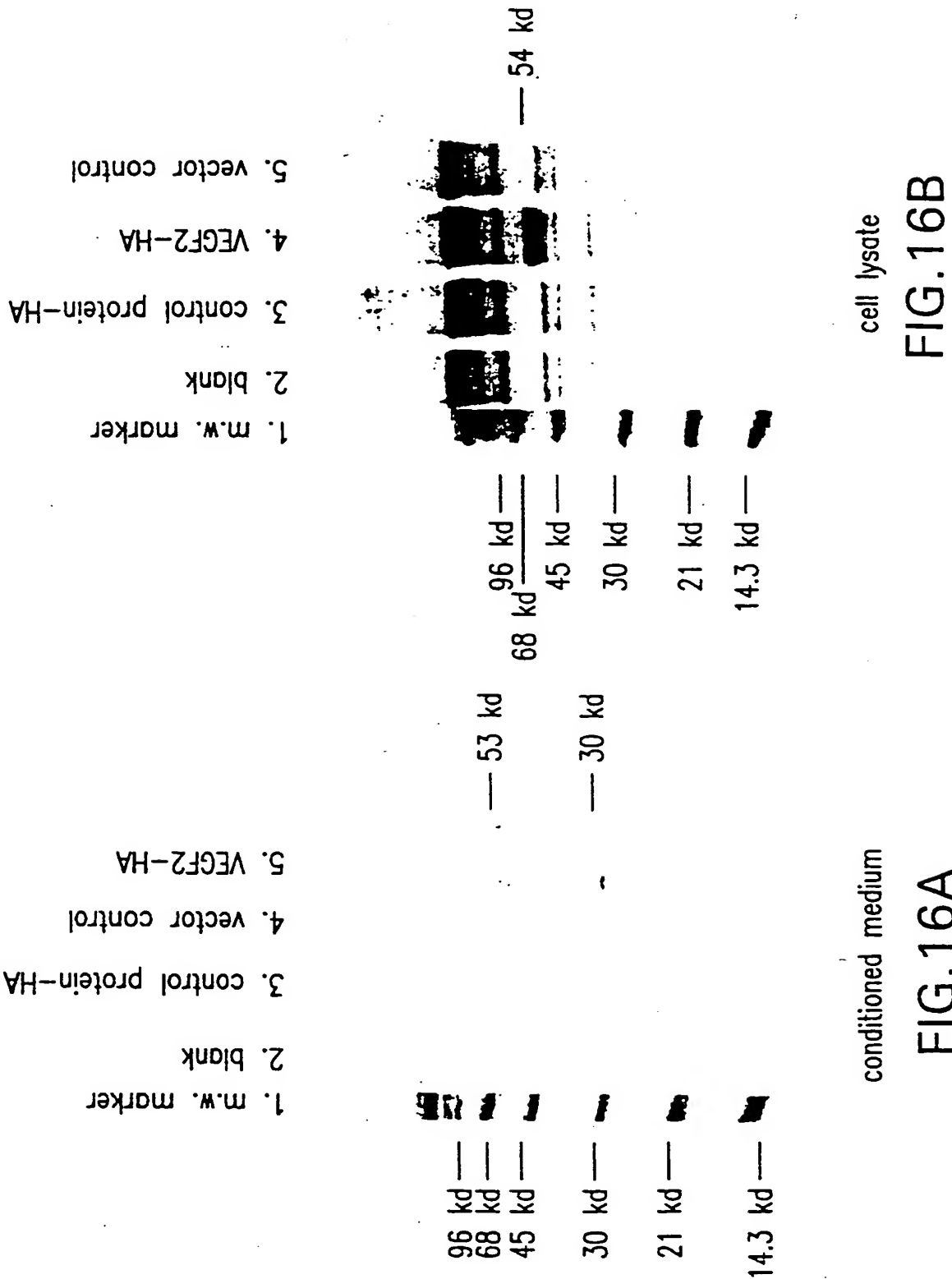
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1. Molecular Weight Marker
2. umbelical vein endothelial cells
3. aortic smooth muscle cells
4. Dermal fibroblast

FIG.15

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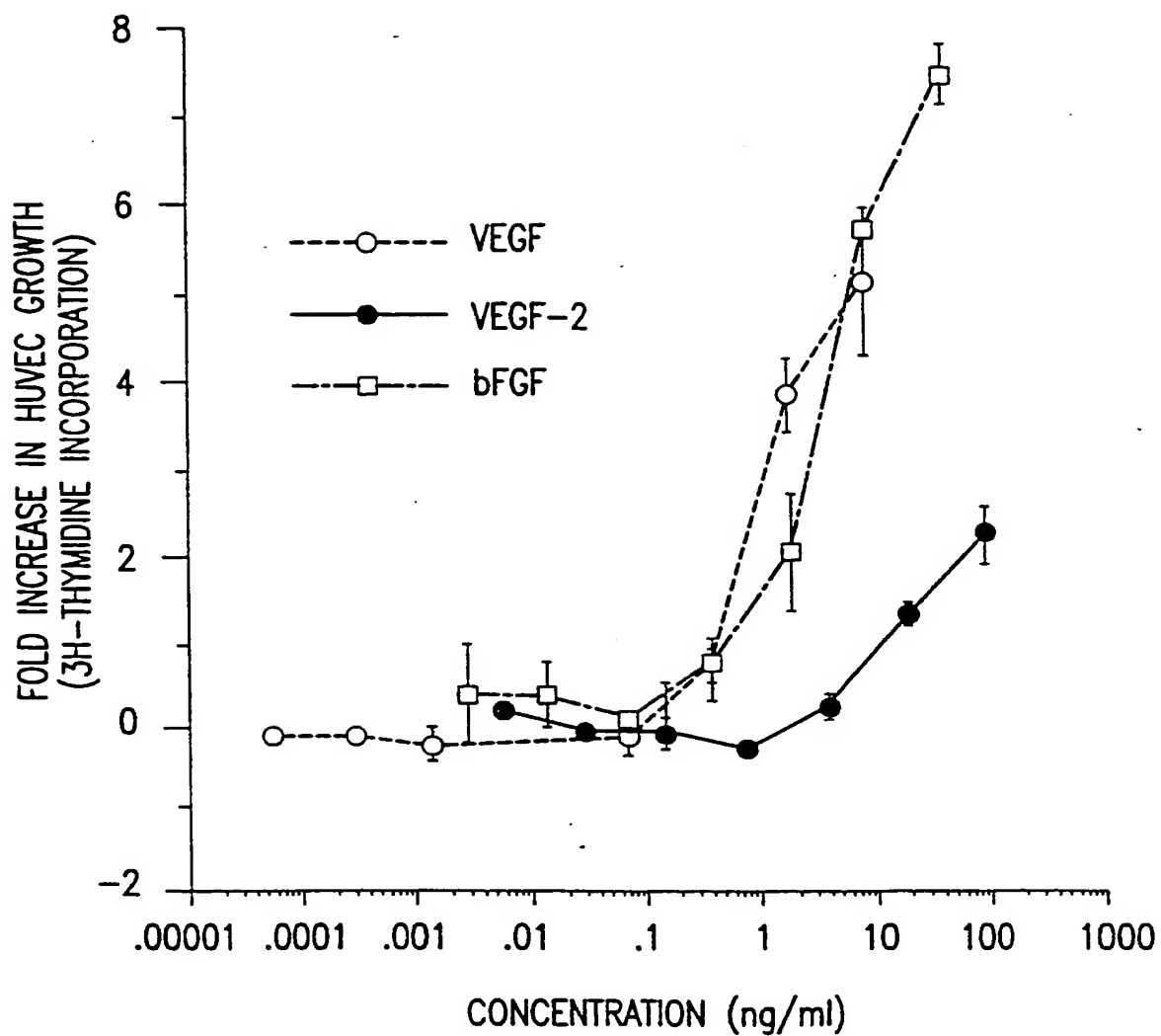


FIG.17

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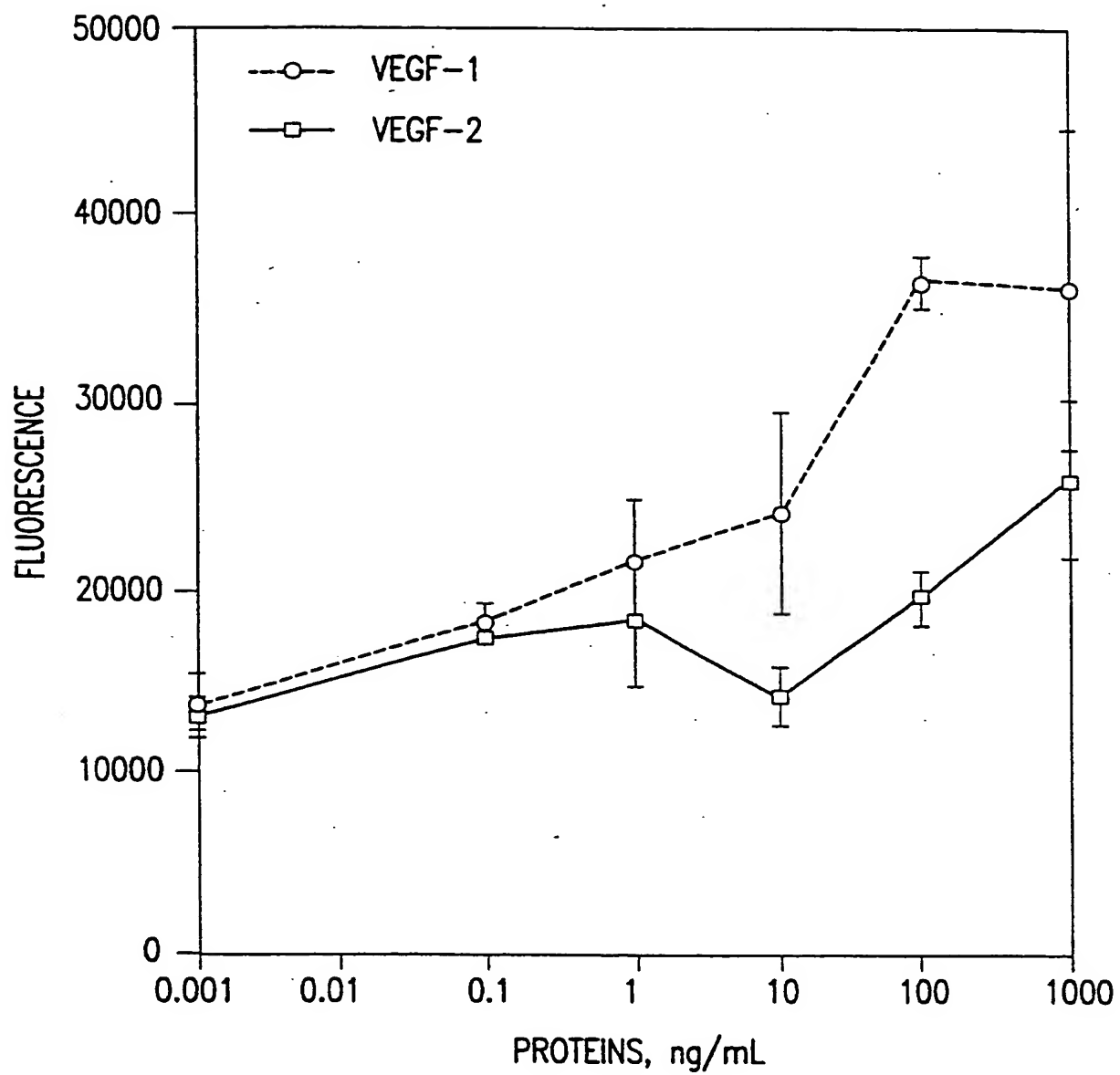


FIG.18

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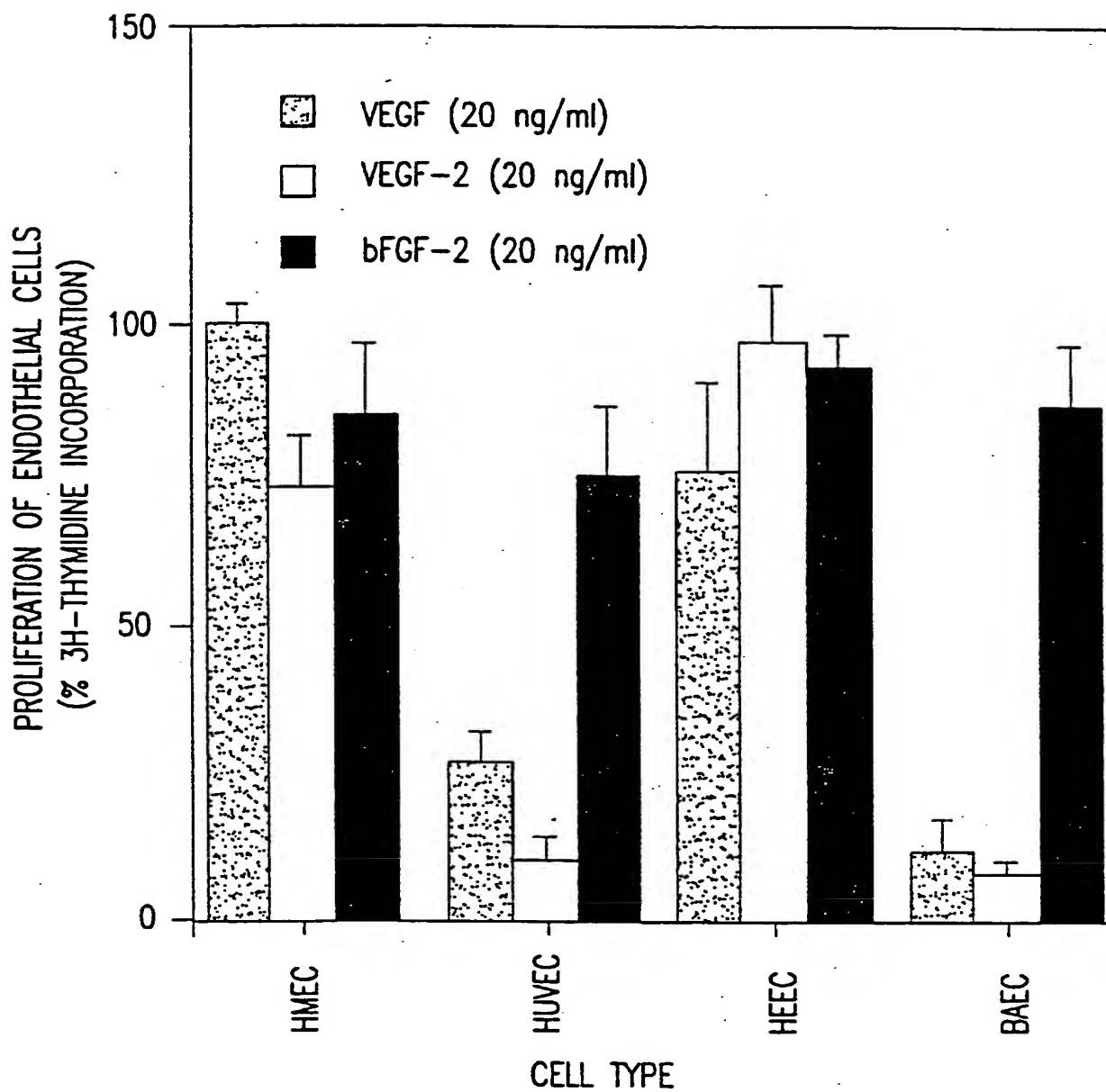


FIG.19

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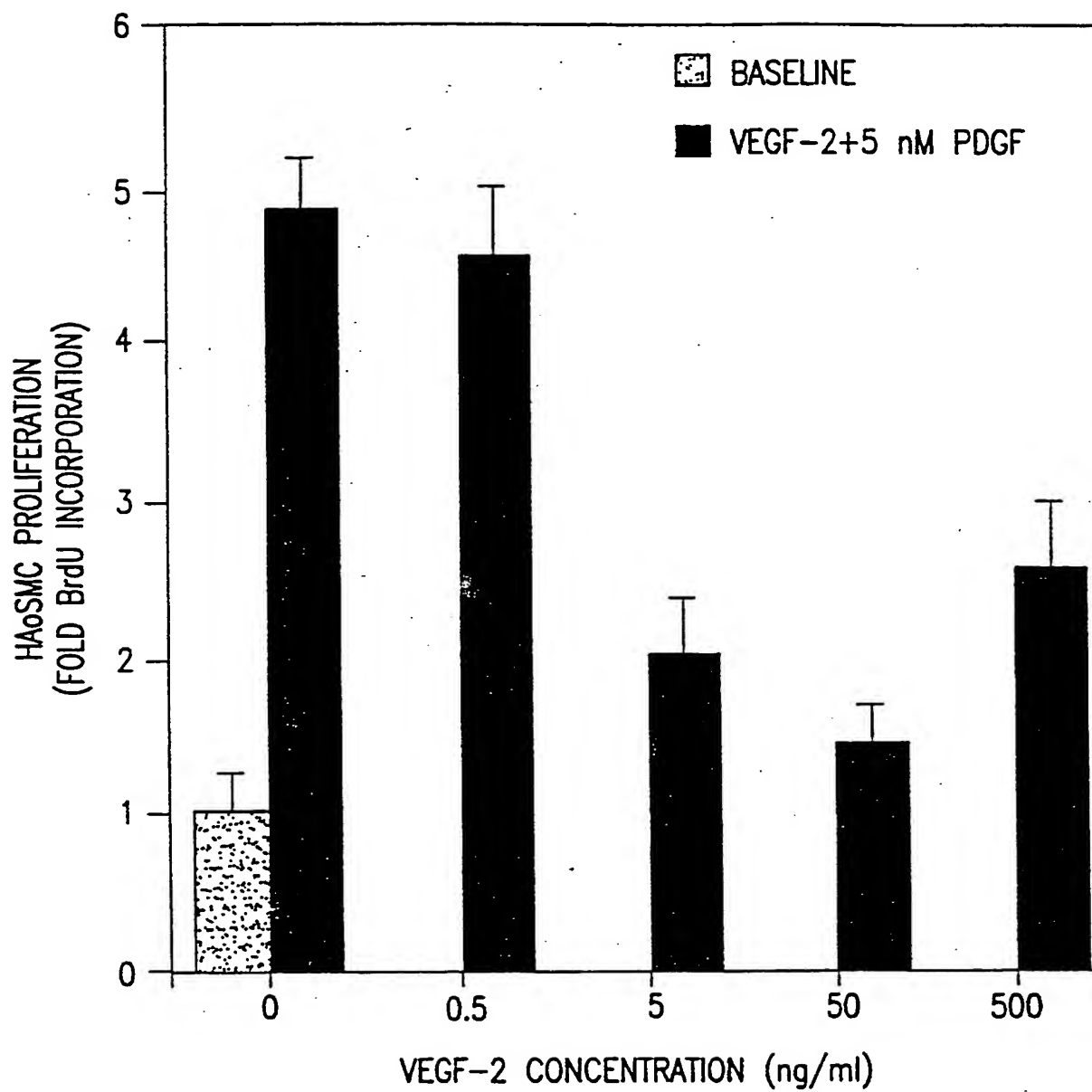


FIG.20A

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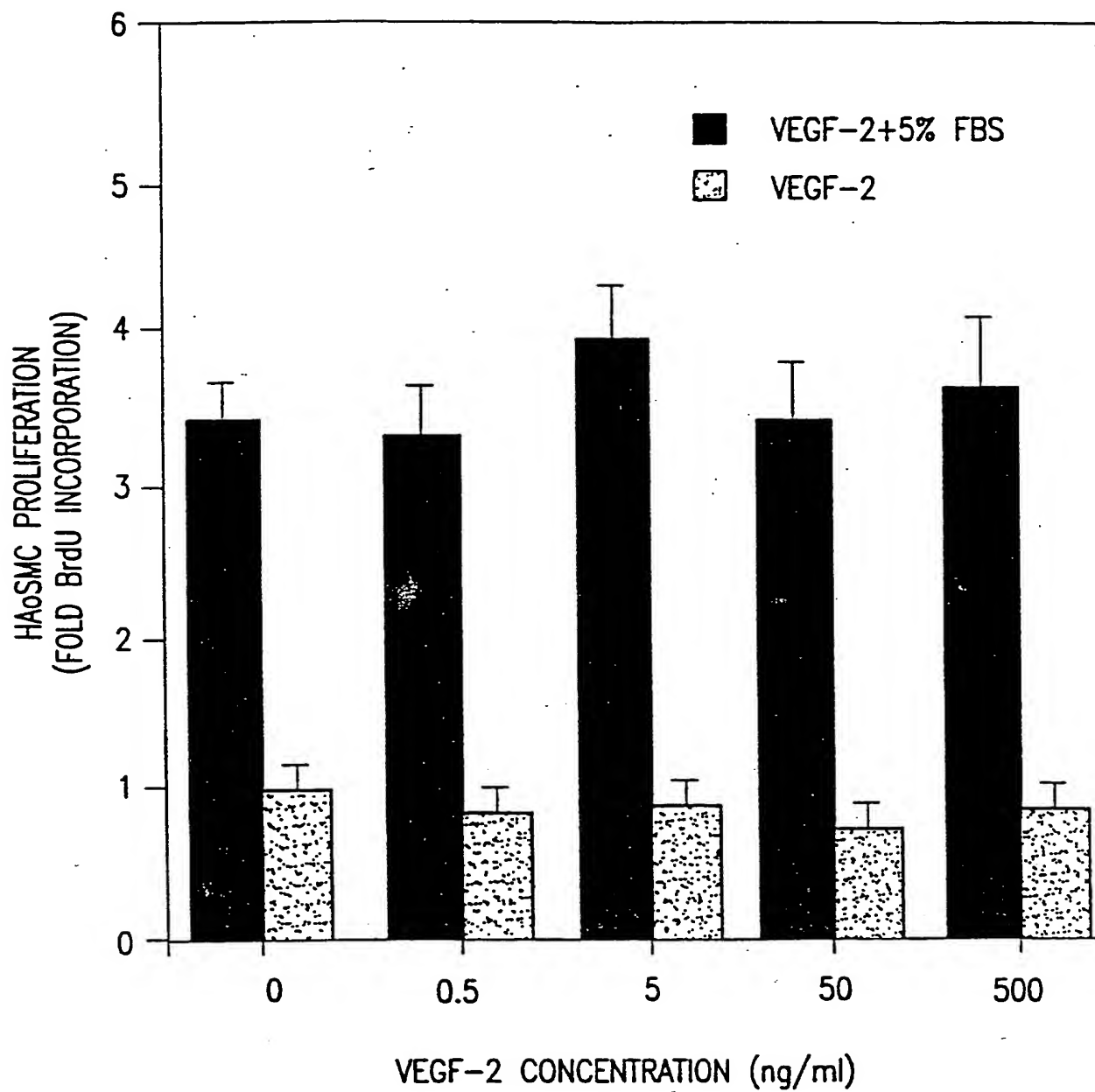


FIG.20B

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HUVEC MIGRATION

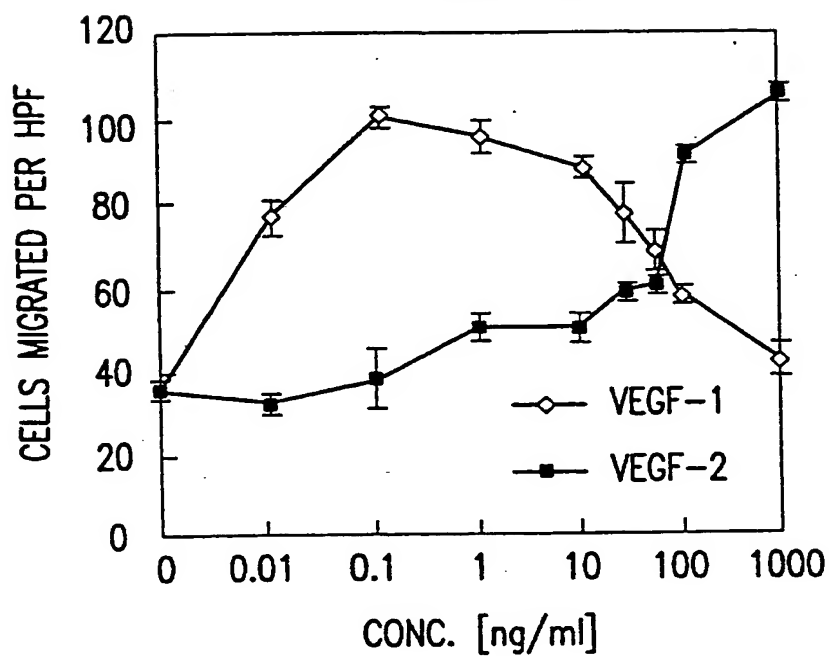


FIG.21A

BMEC MIGRATION

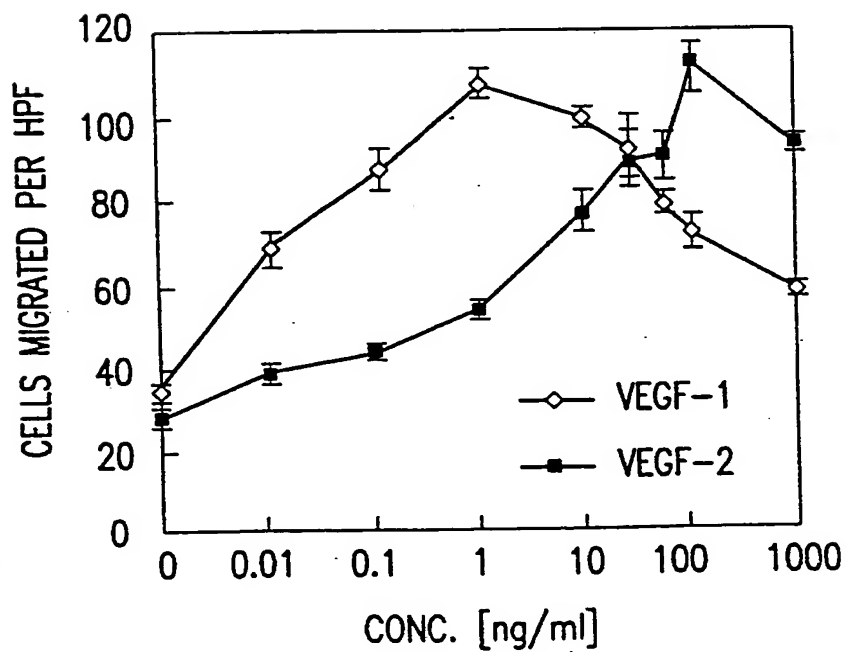


FIG.21B

SUBSTITUTE SHEET (RULE 26)

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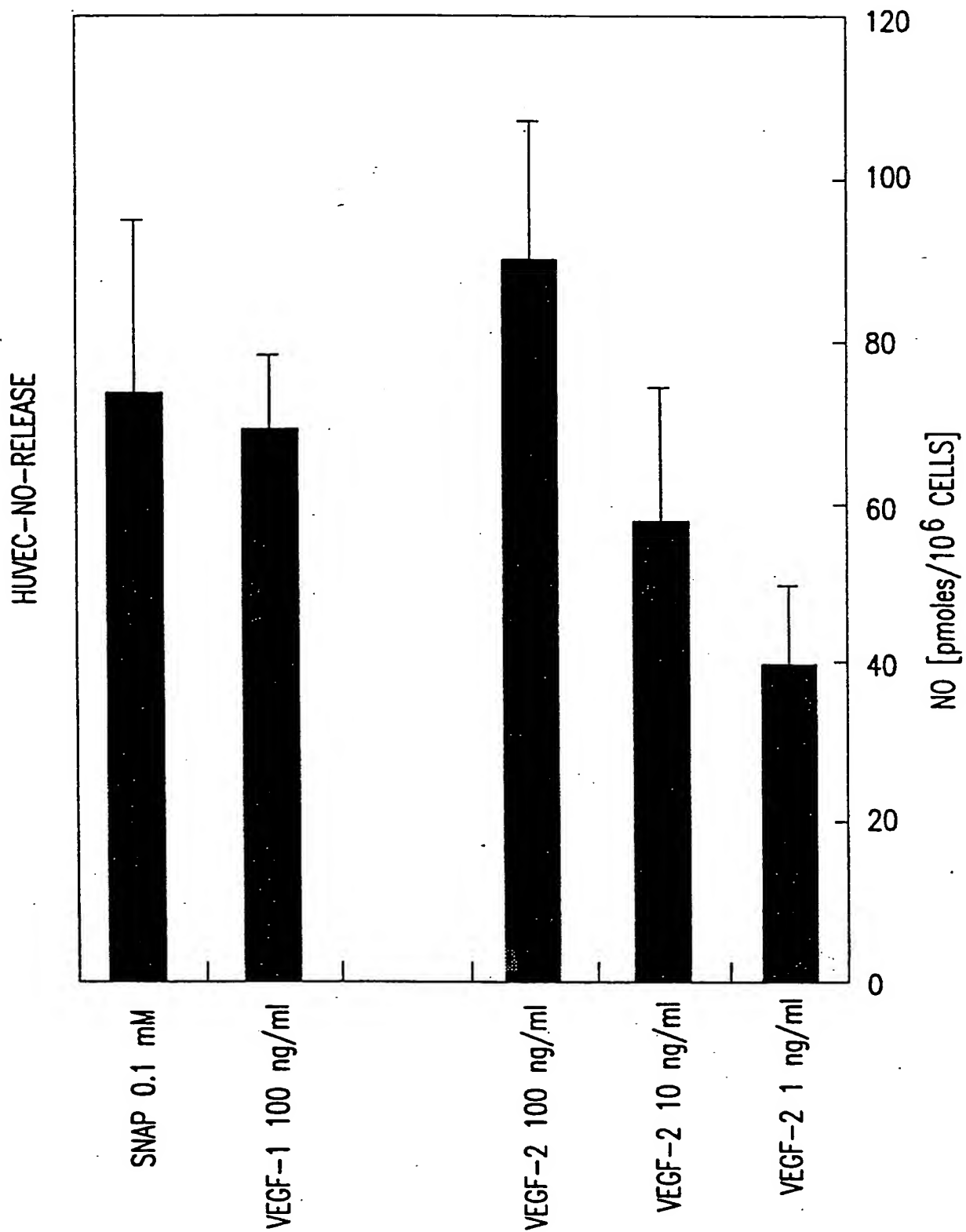


FIG.22

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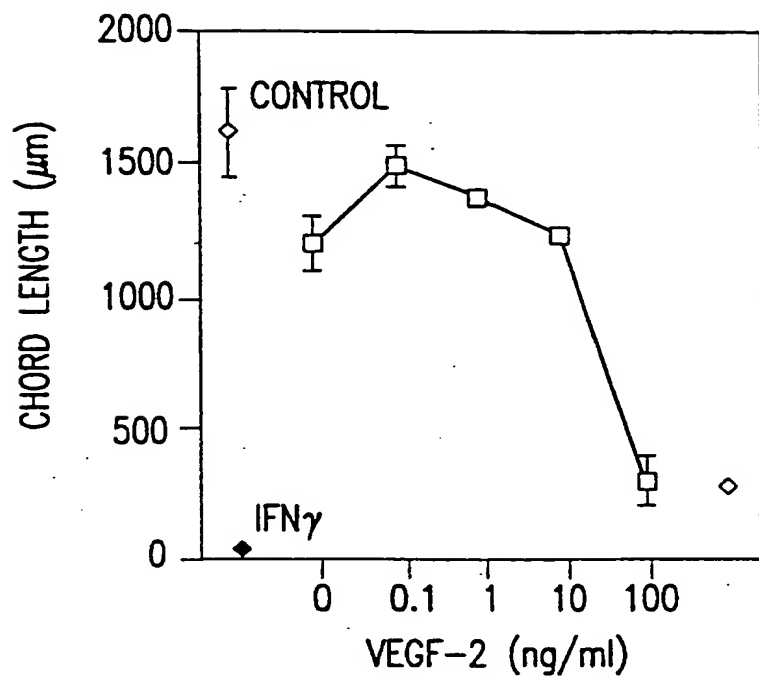


FIG.23

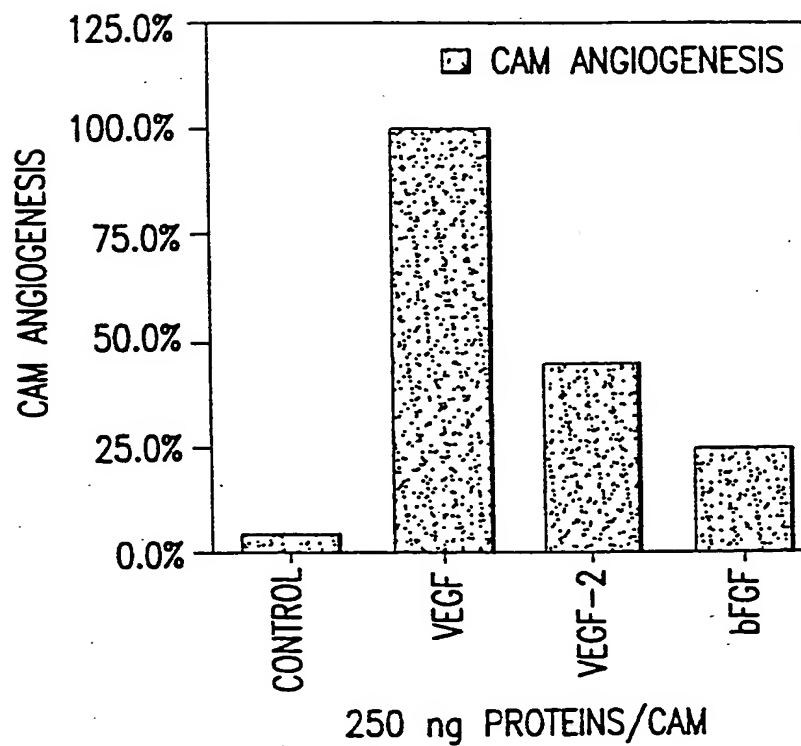


FIG.24

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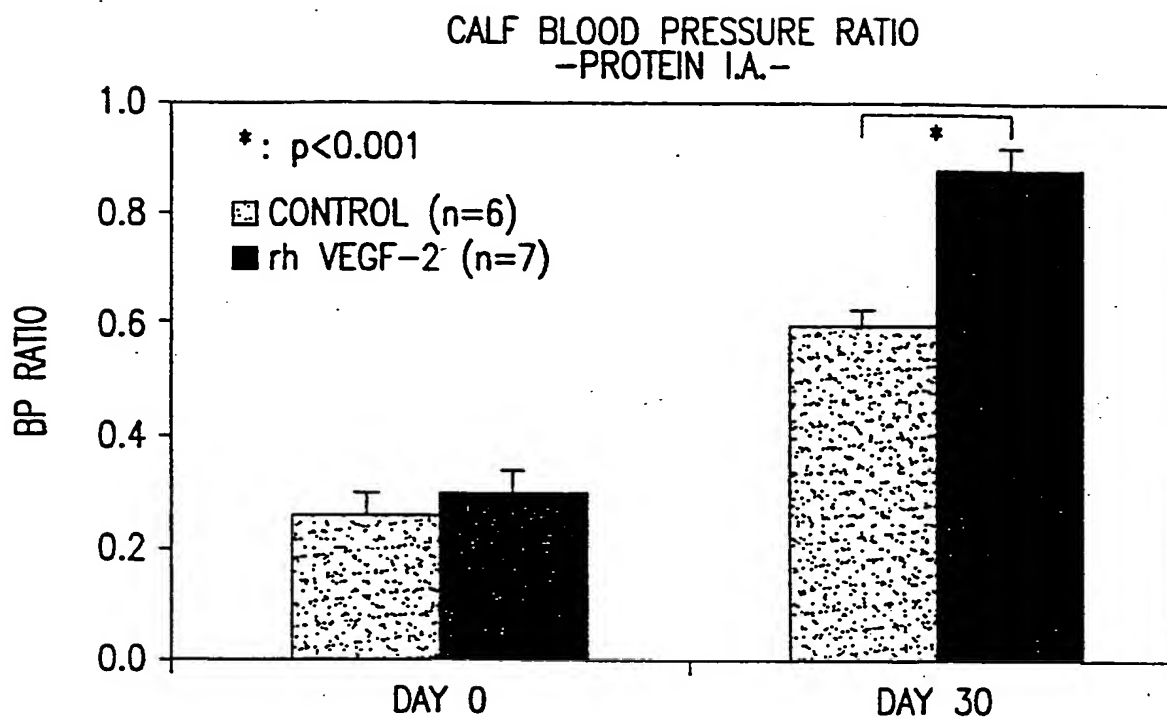


FIG.25A

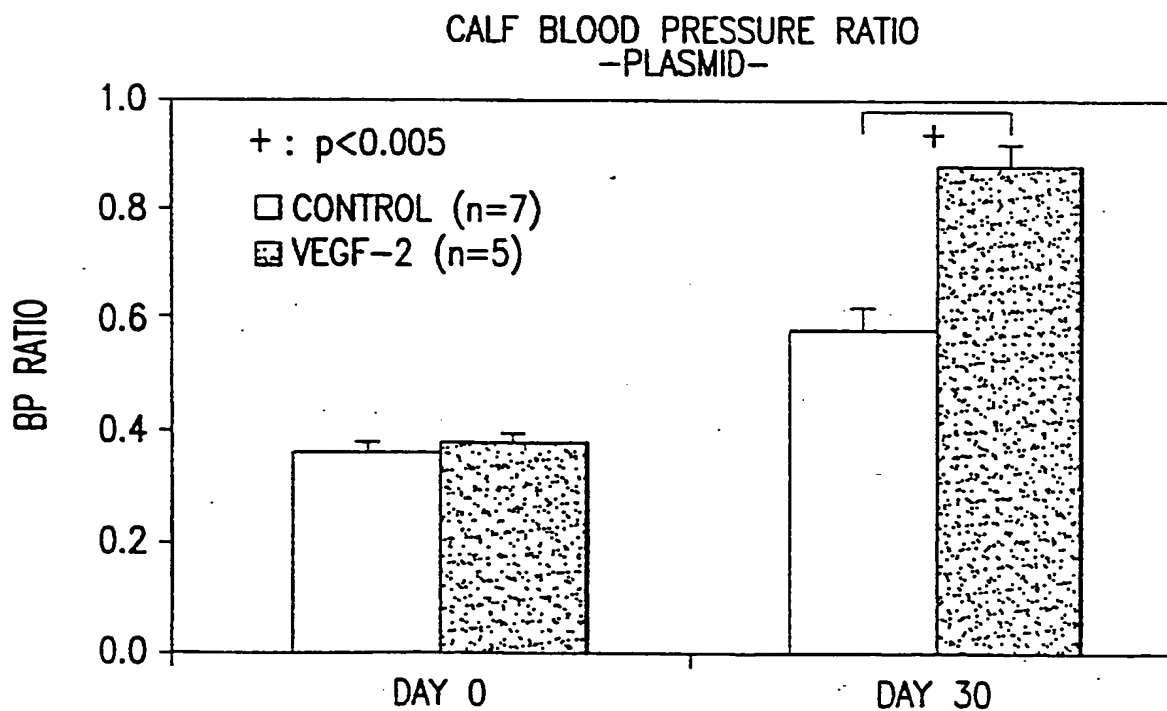


FIG.25B

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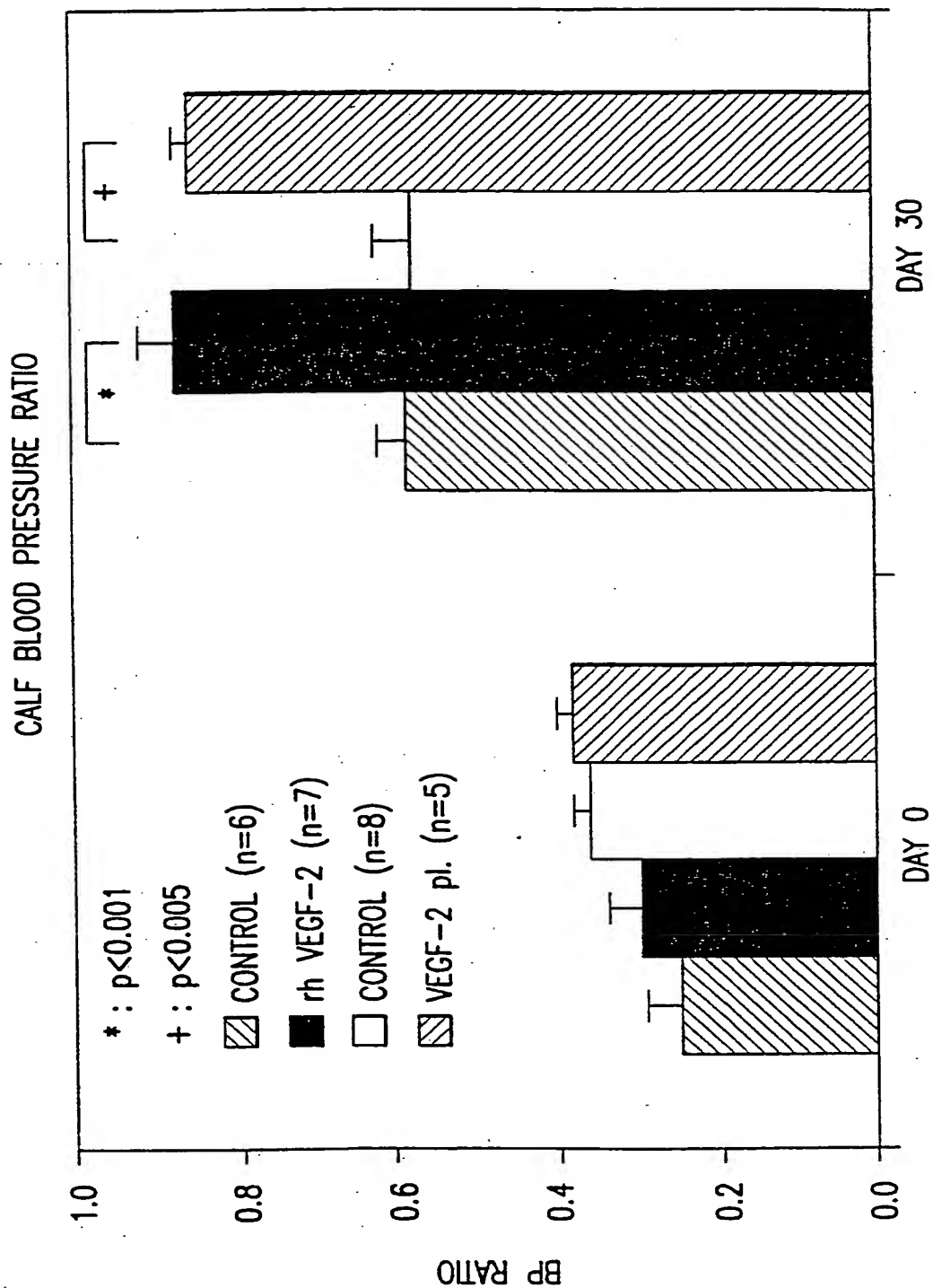


FIG.25C

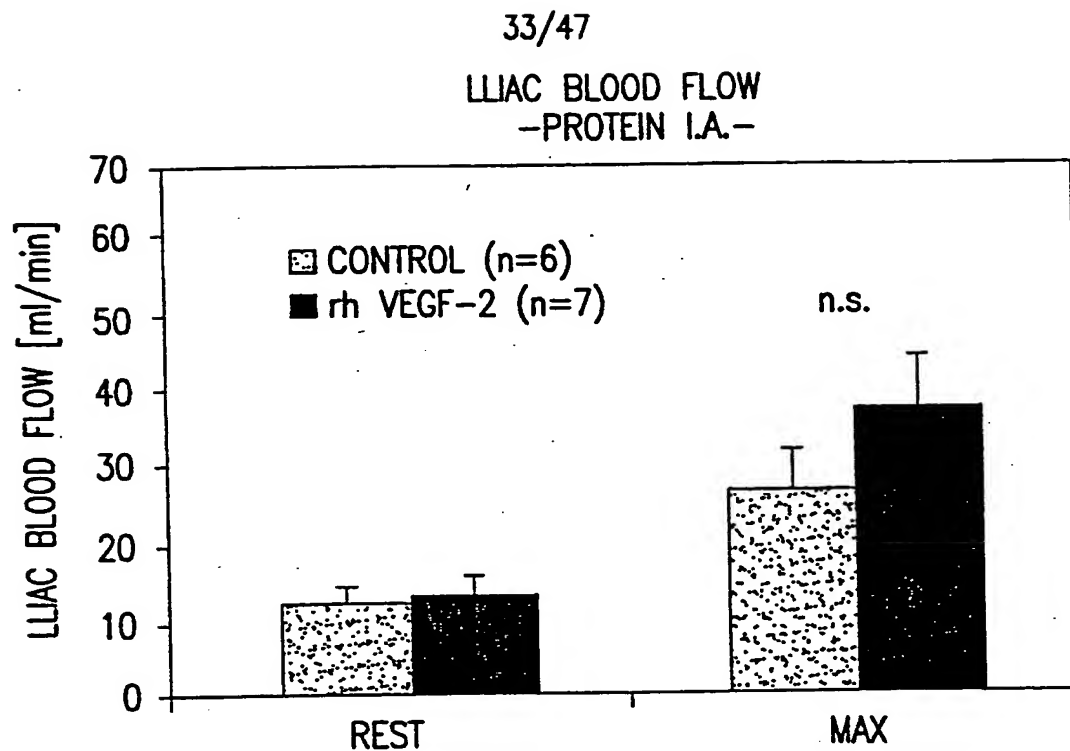


FIG.25D

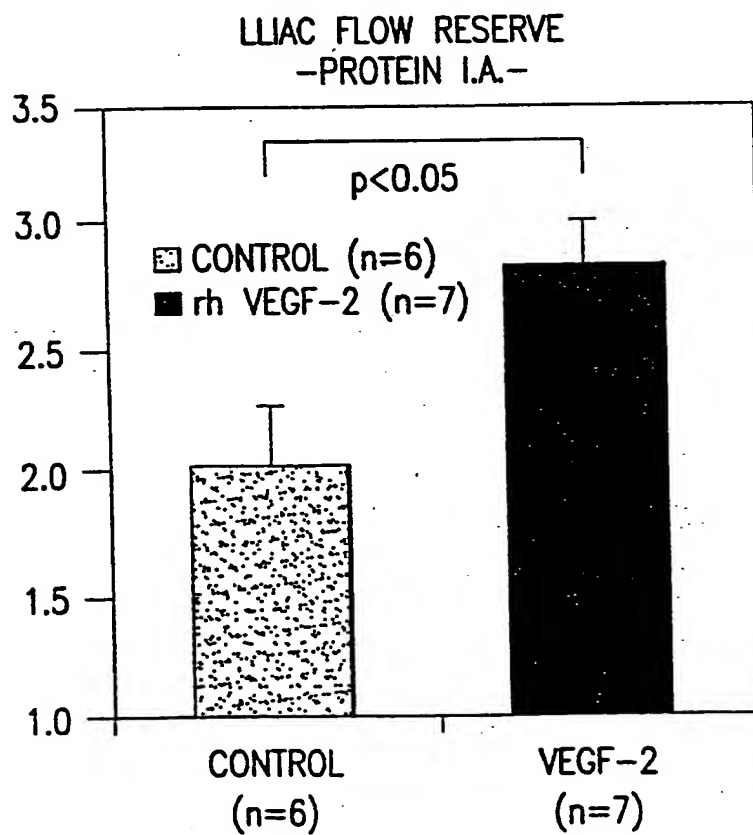


FIG.25E

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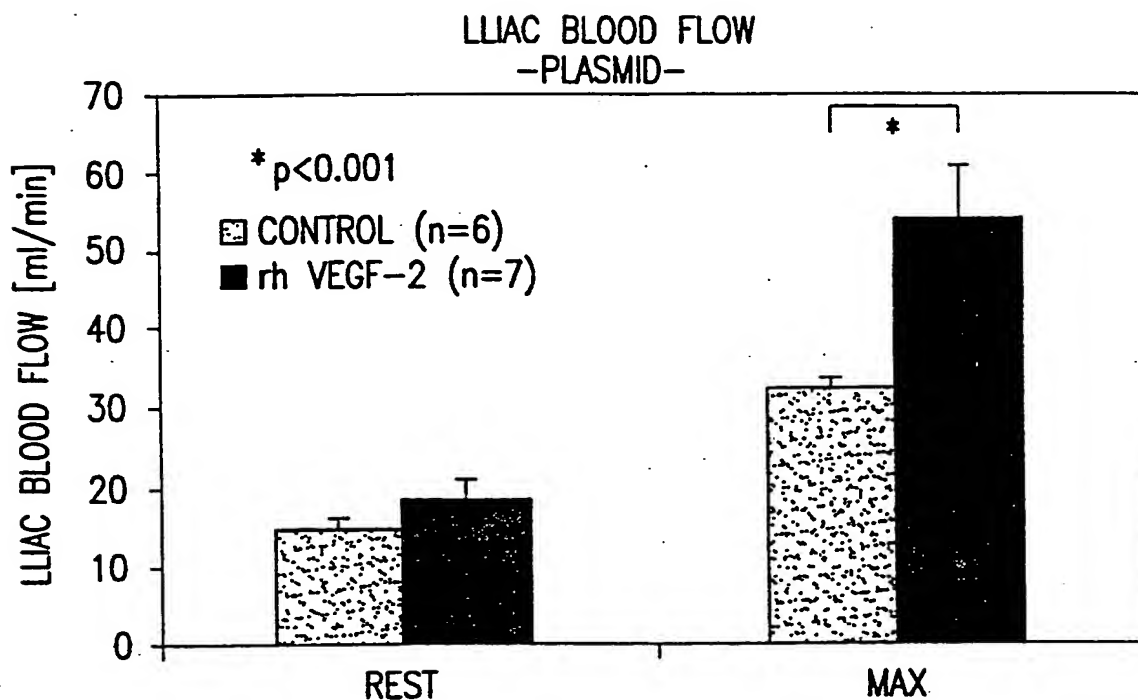


FIG.25F

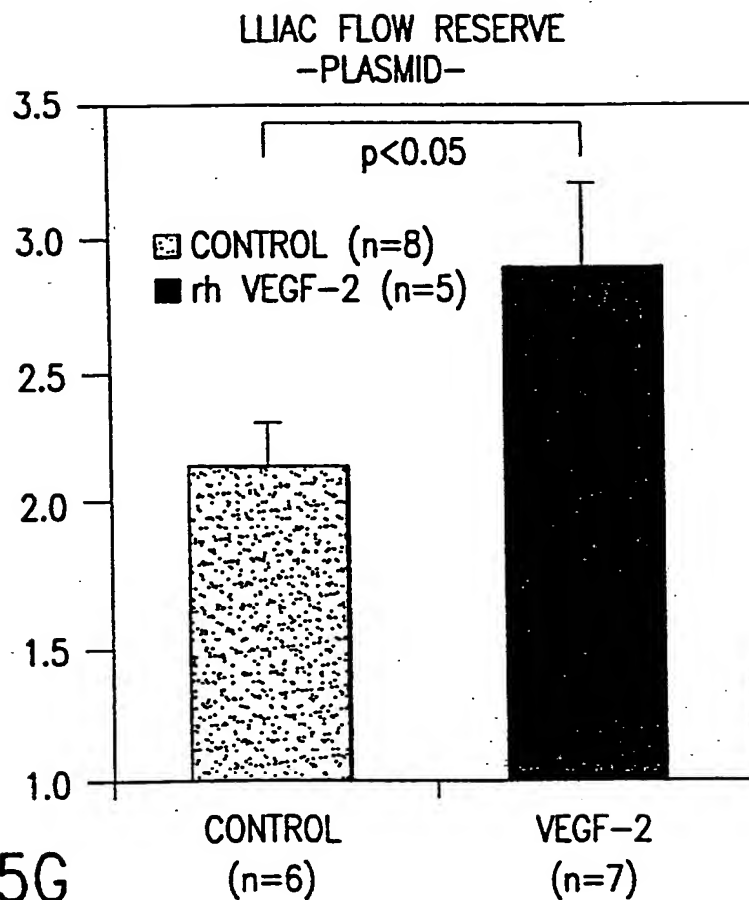


FIG.25G

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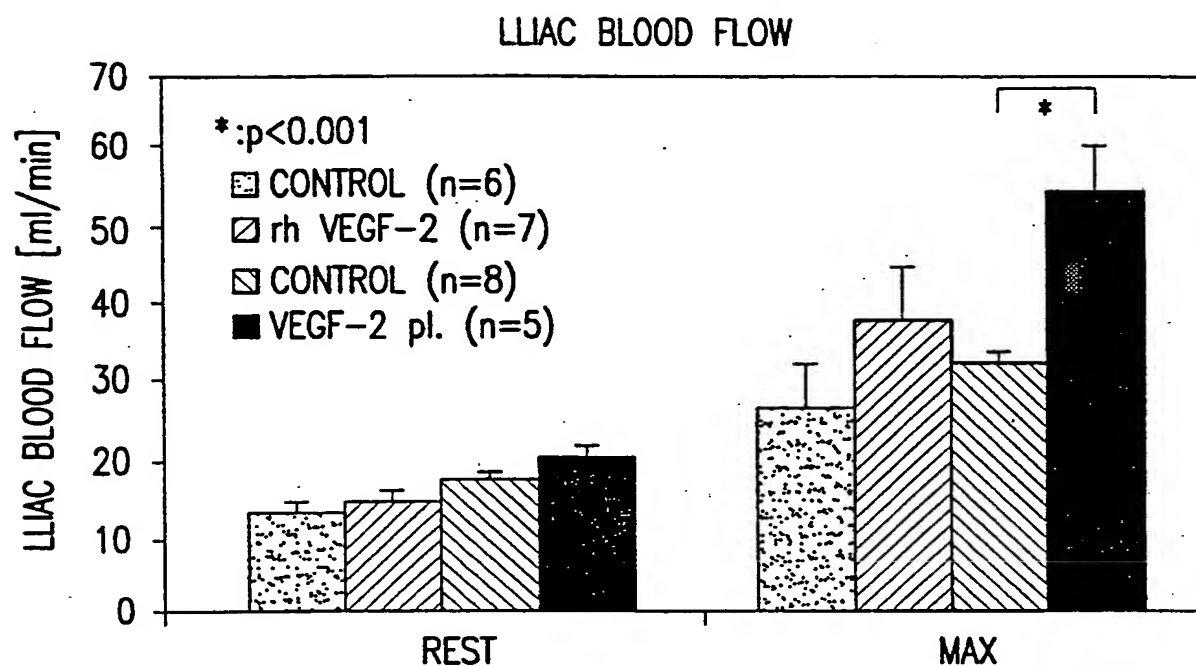


FIG.25H

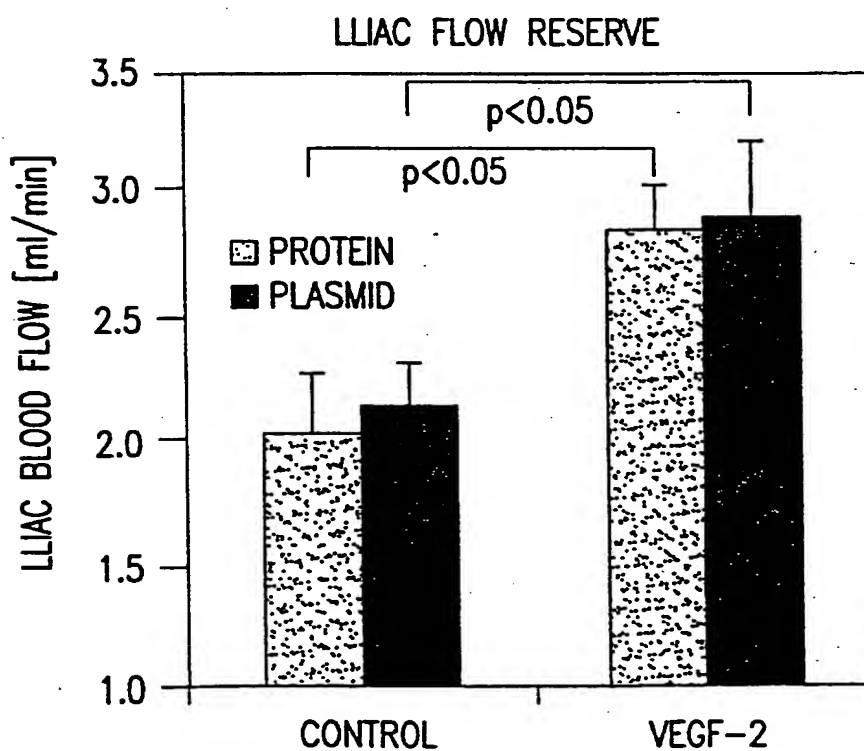


FIG.25I

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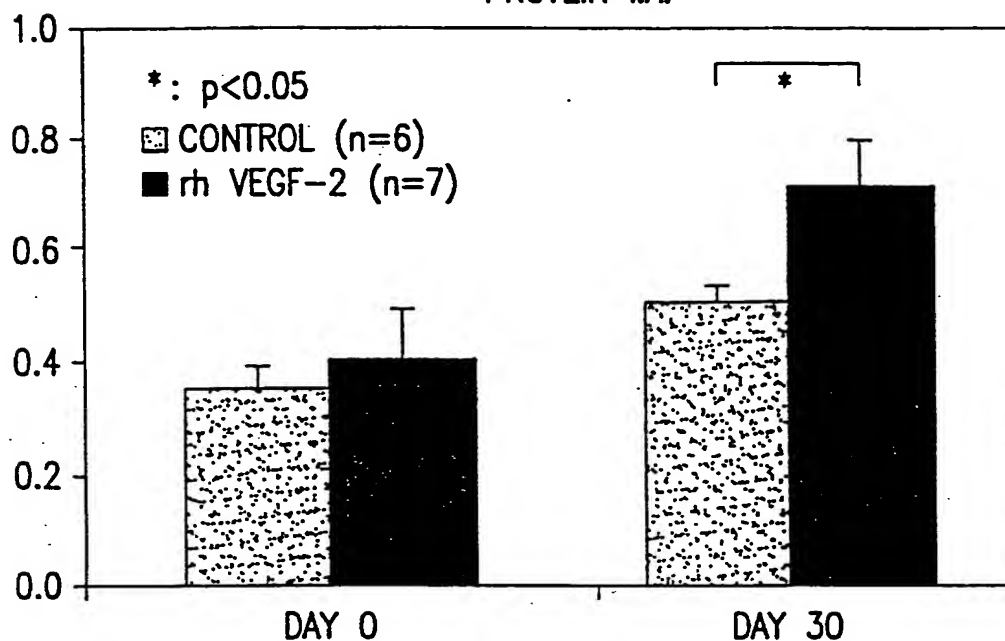
ANGIOGRAPHIC SCORE
-PROTEIN I.A.-

FIG.25J

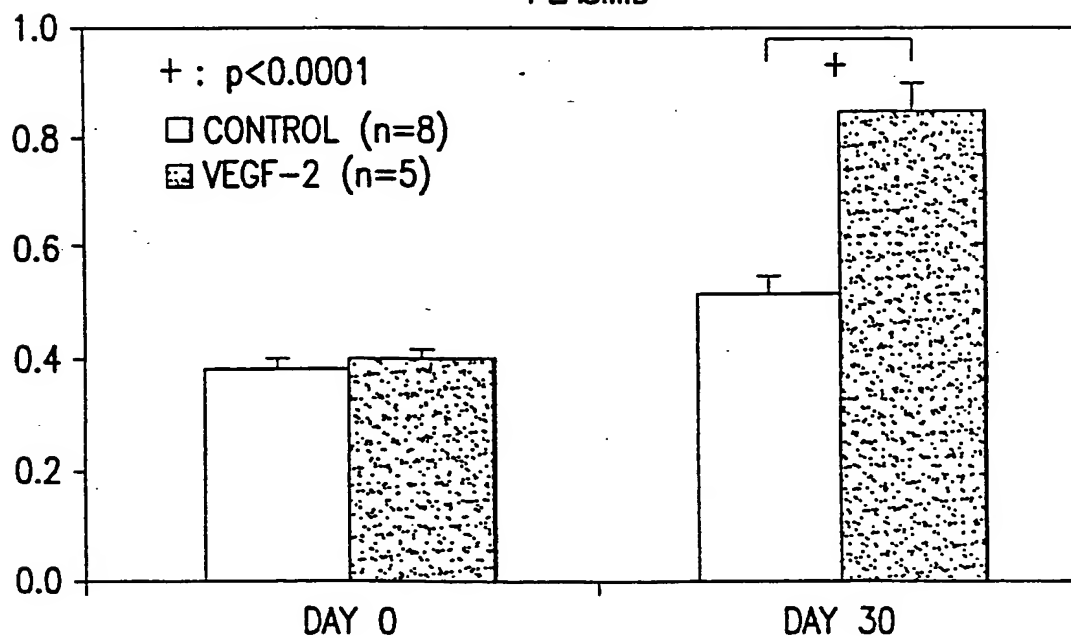
ANGIOGRAPHIC SCORE
-PLASMID-

FIG.25K

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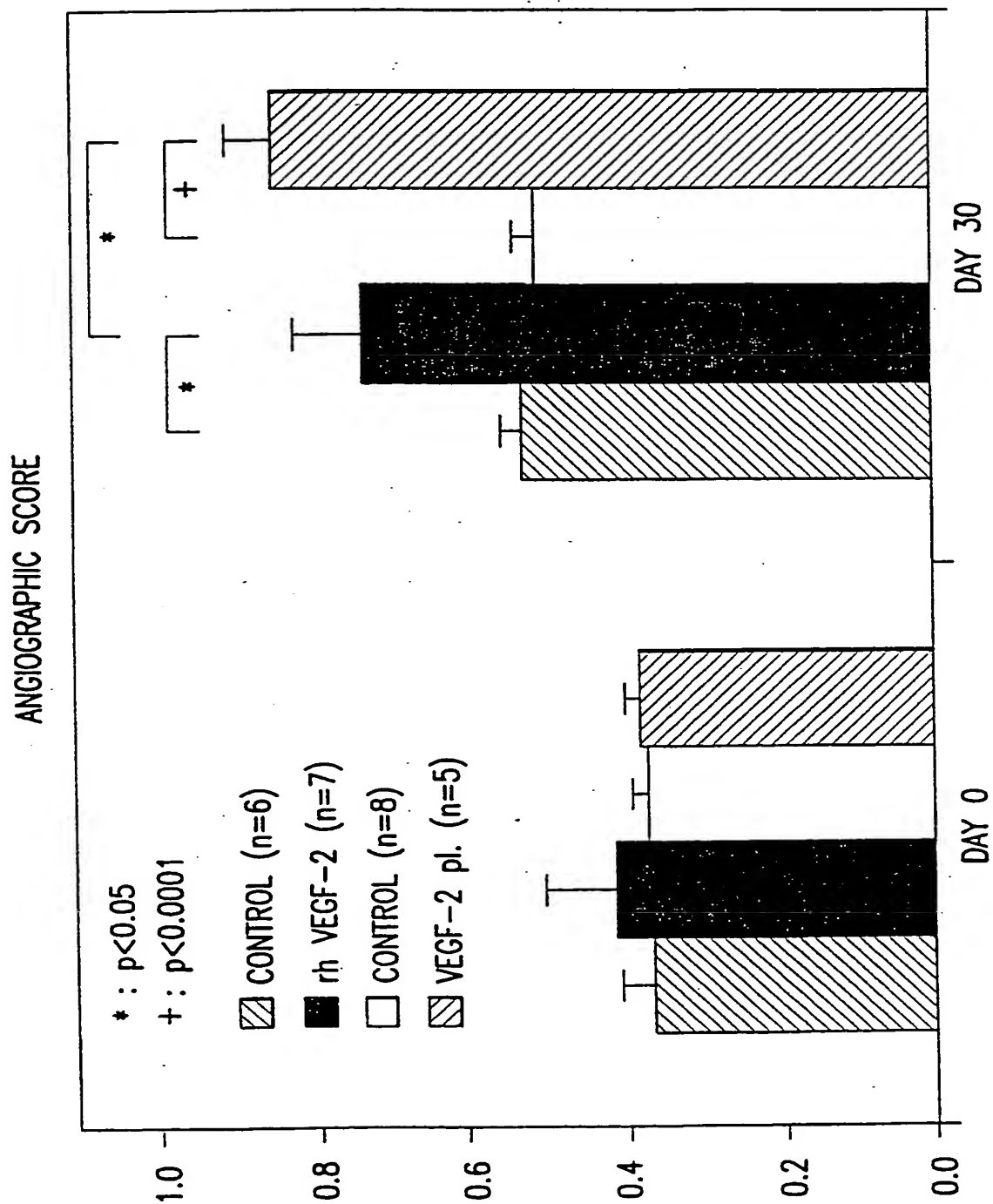


FIG. 25L

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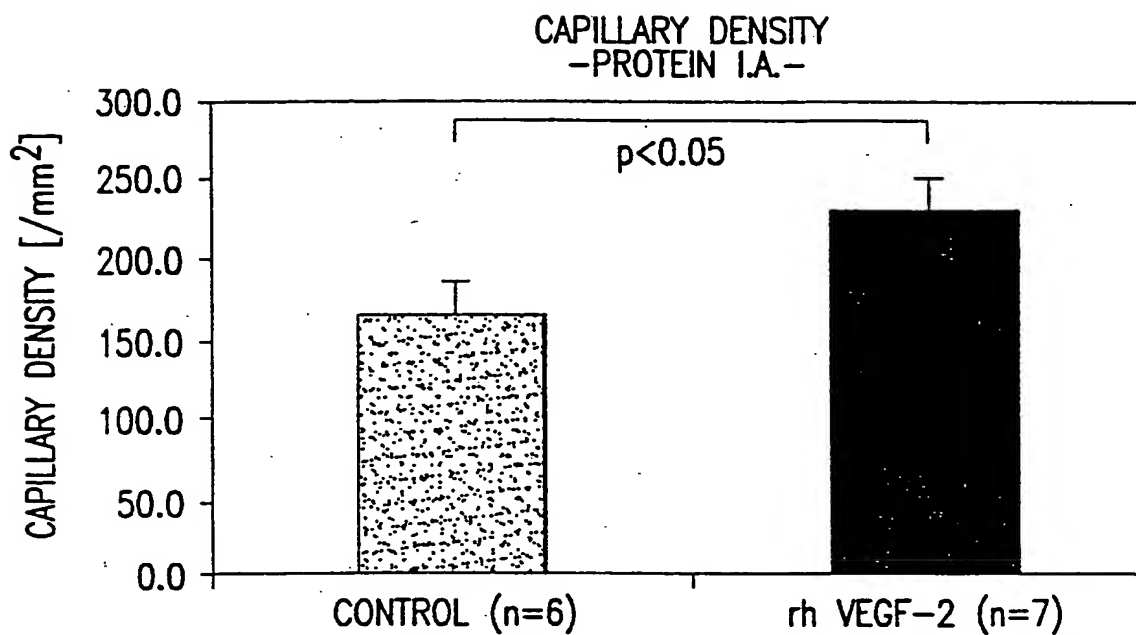


FIG.25M

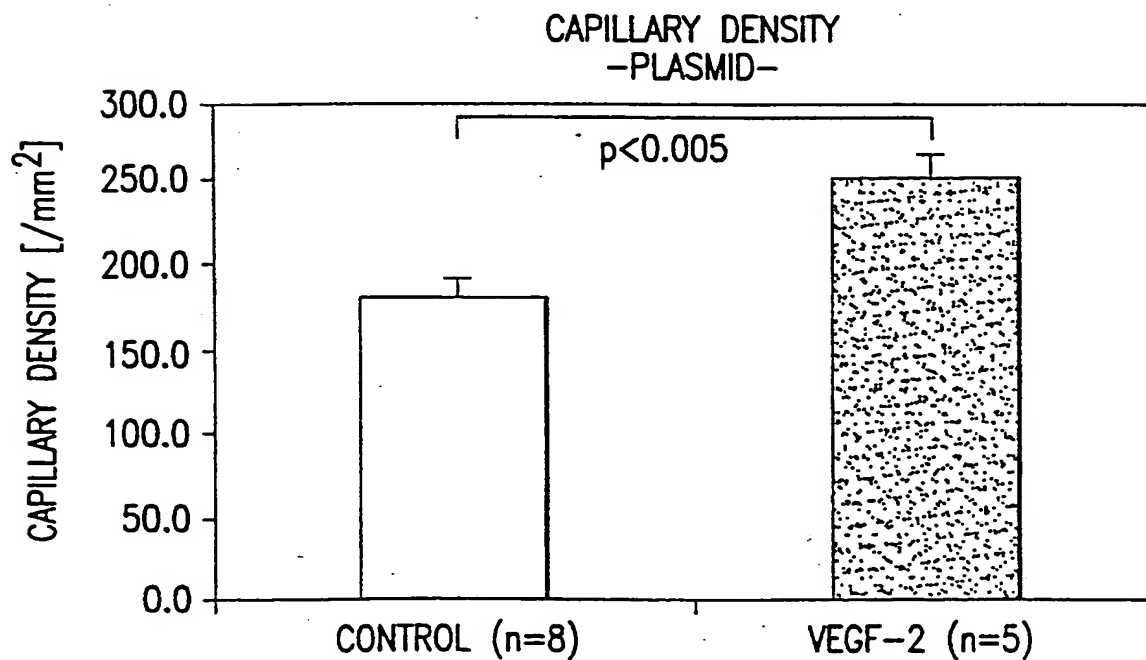
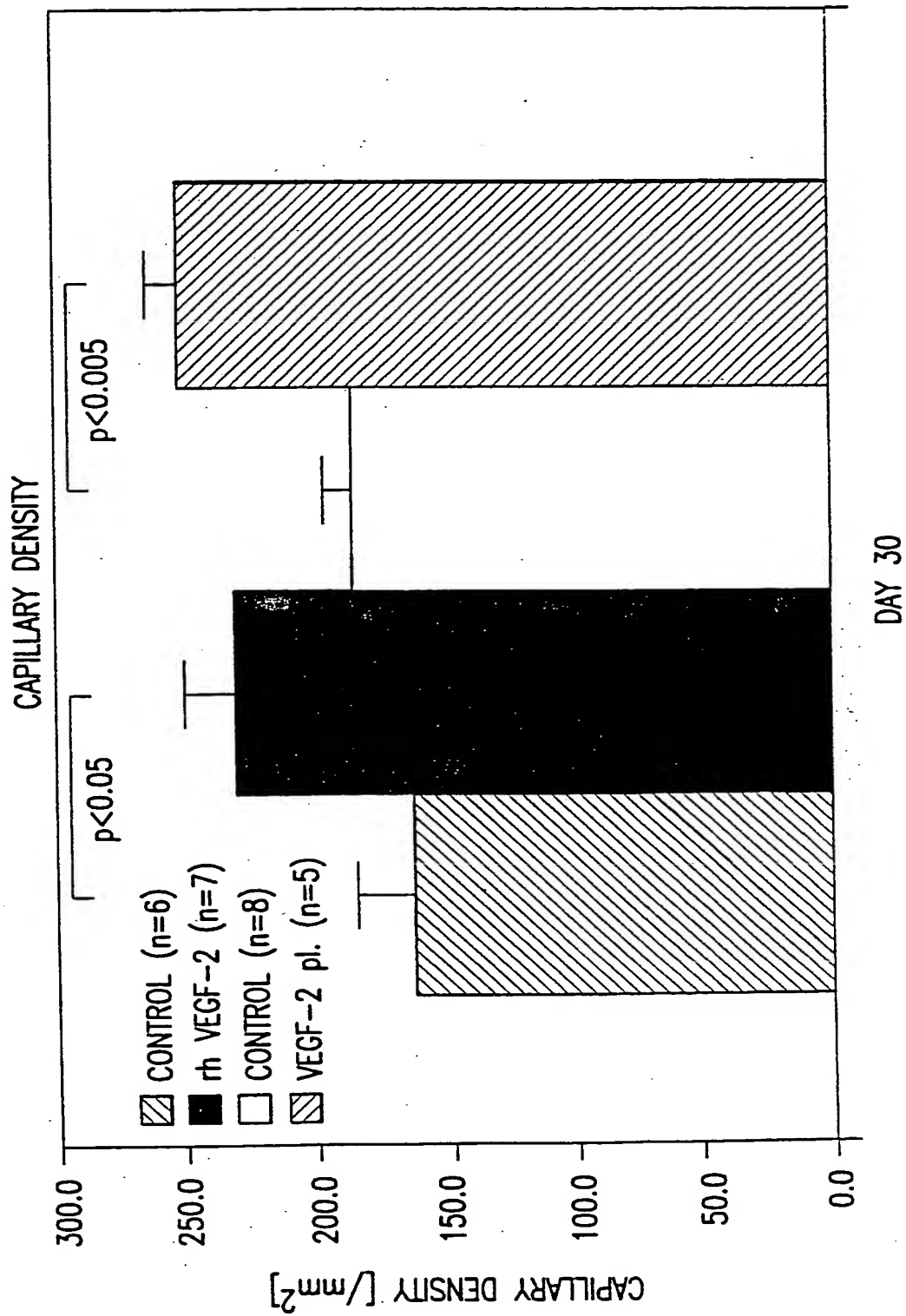


FIG.25N

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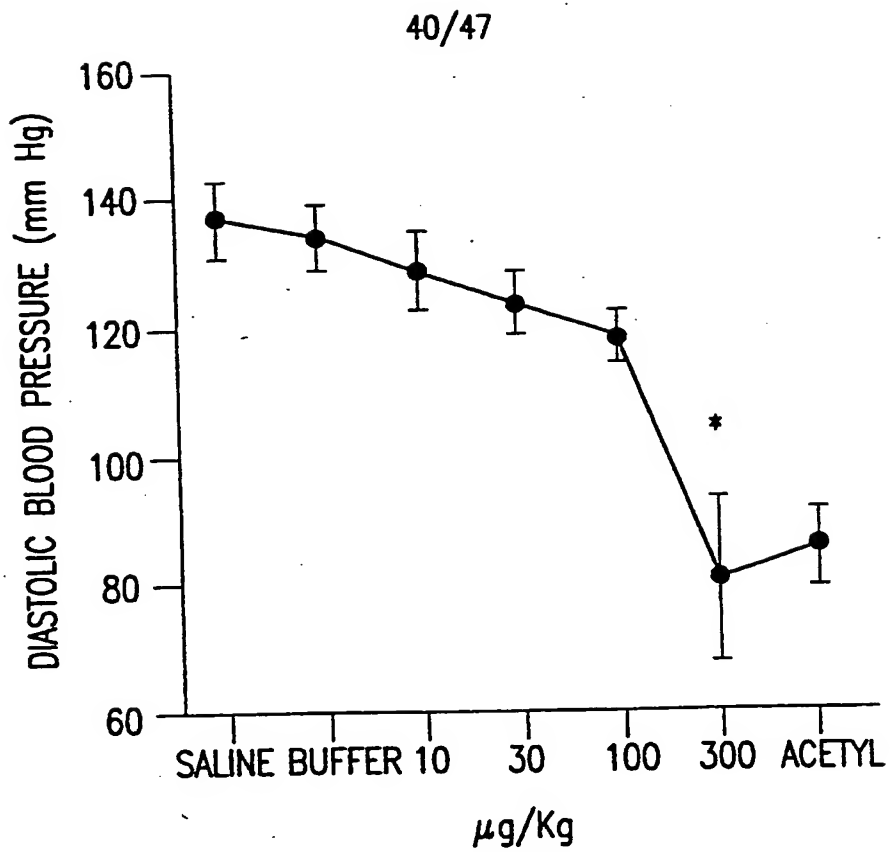


FIG.26A

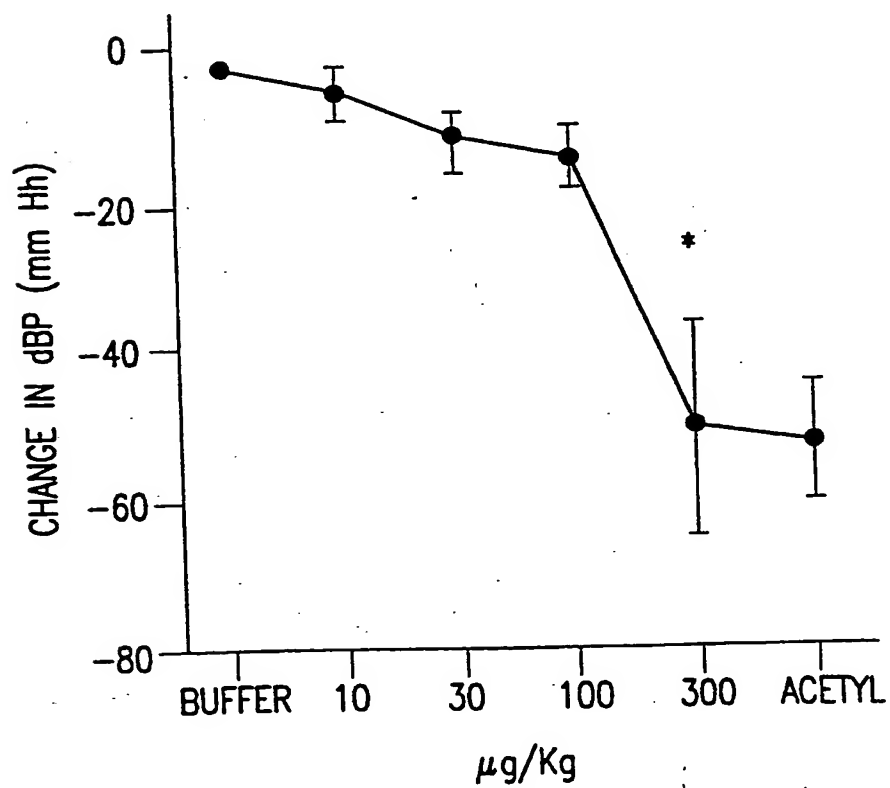


FIG.26B

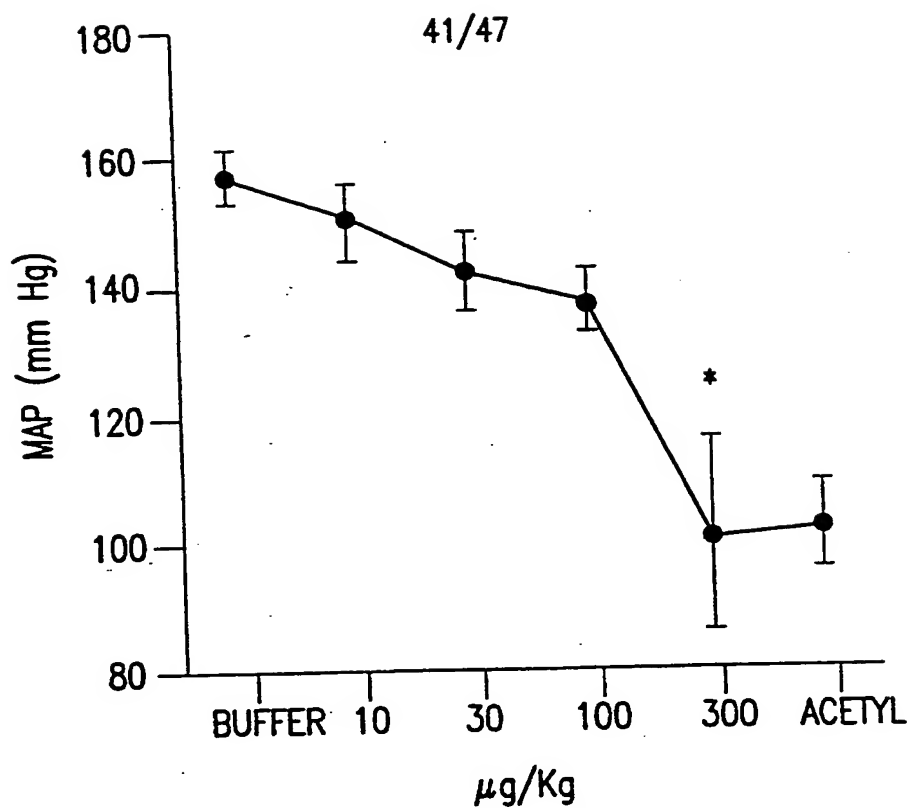


FIG.26C

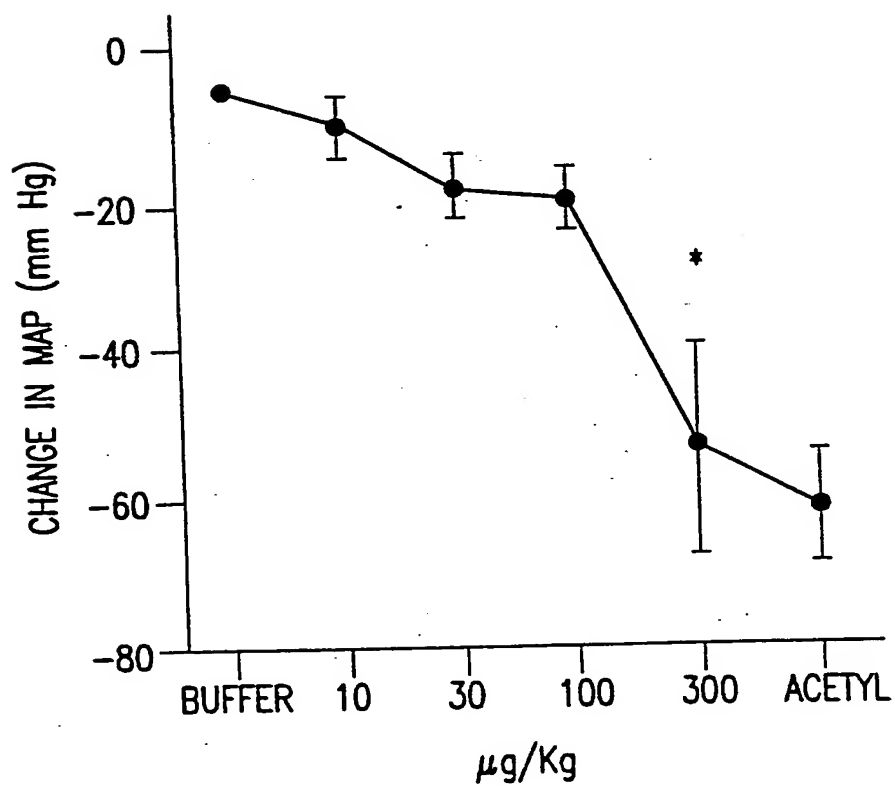


FIG.26D

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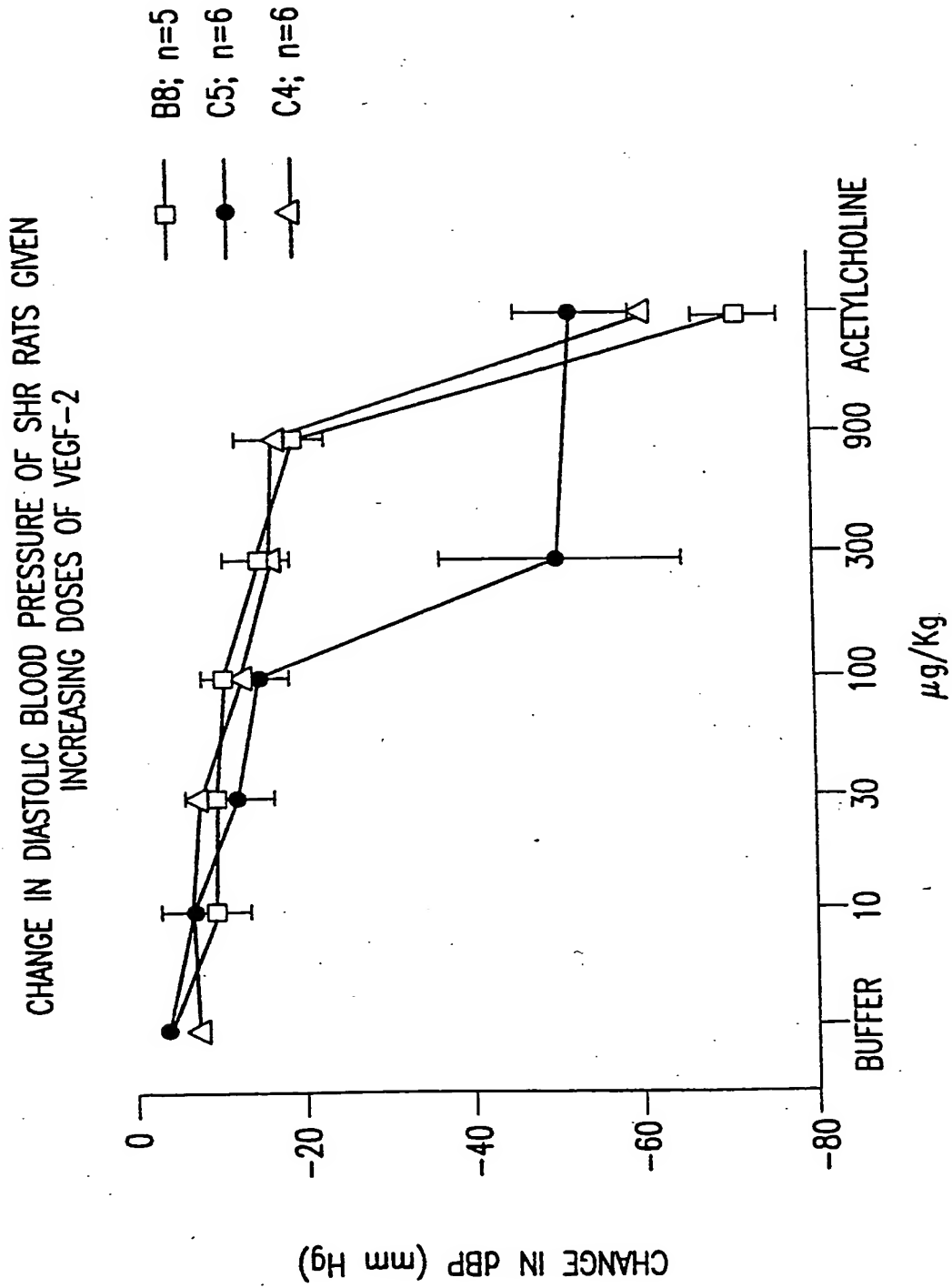


FIG.26E

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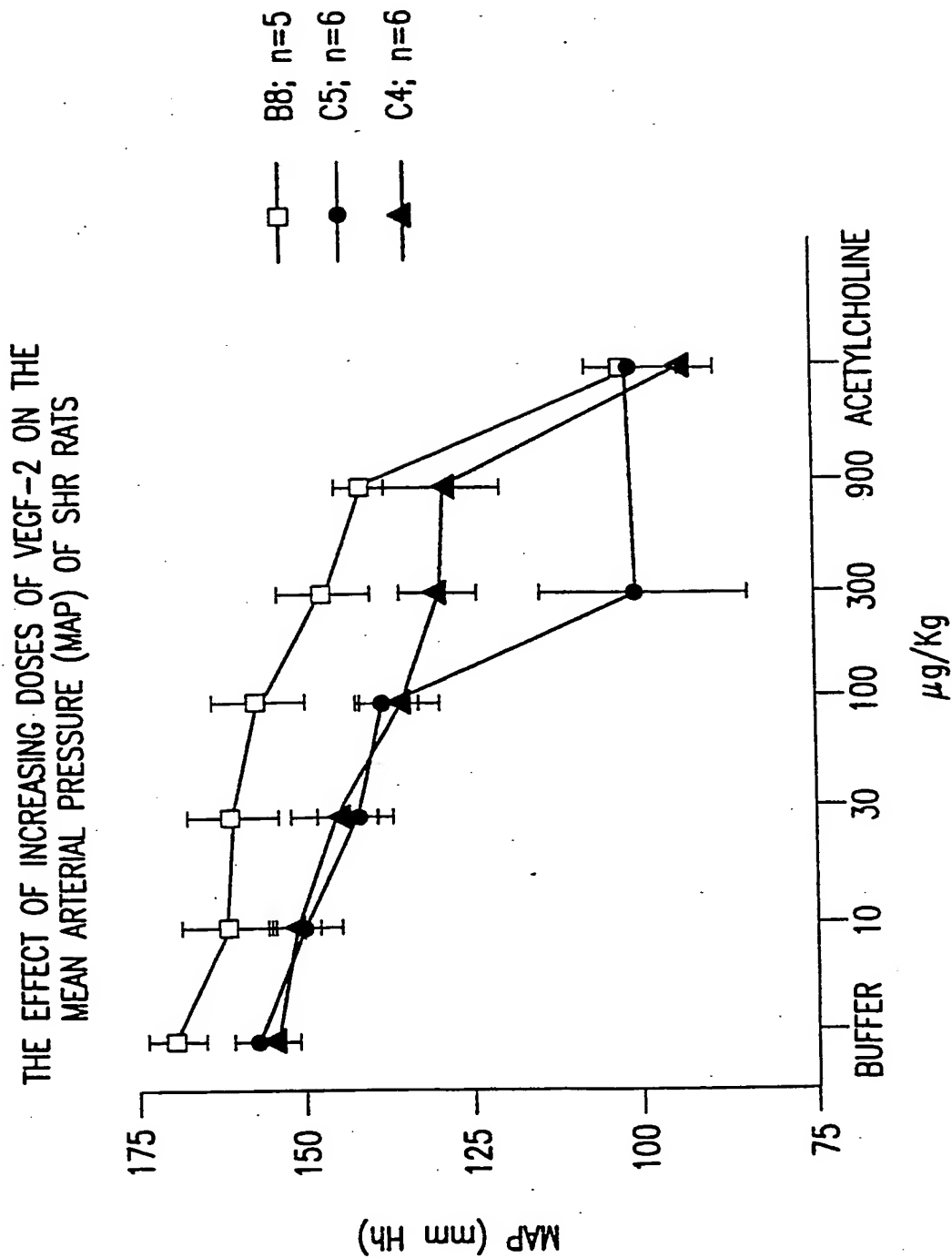


FIG.26F

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THE EFFECT OF VEGF-2 ON THE DIASTOLIC BLOOD PRESSURE OF SHR RATS

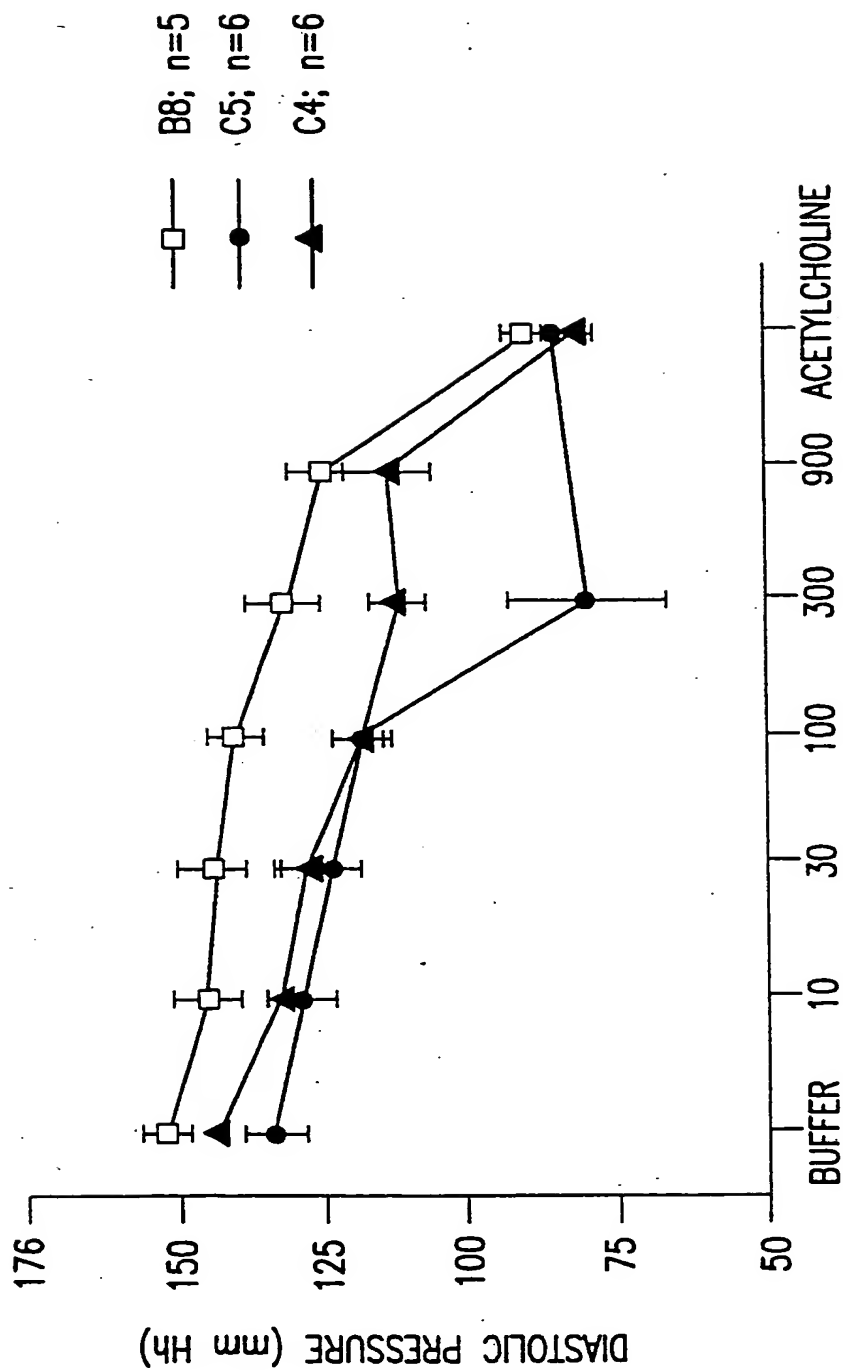


FIG.26G

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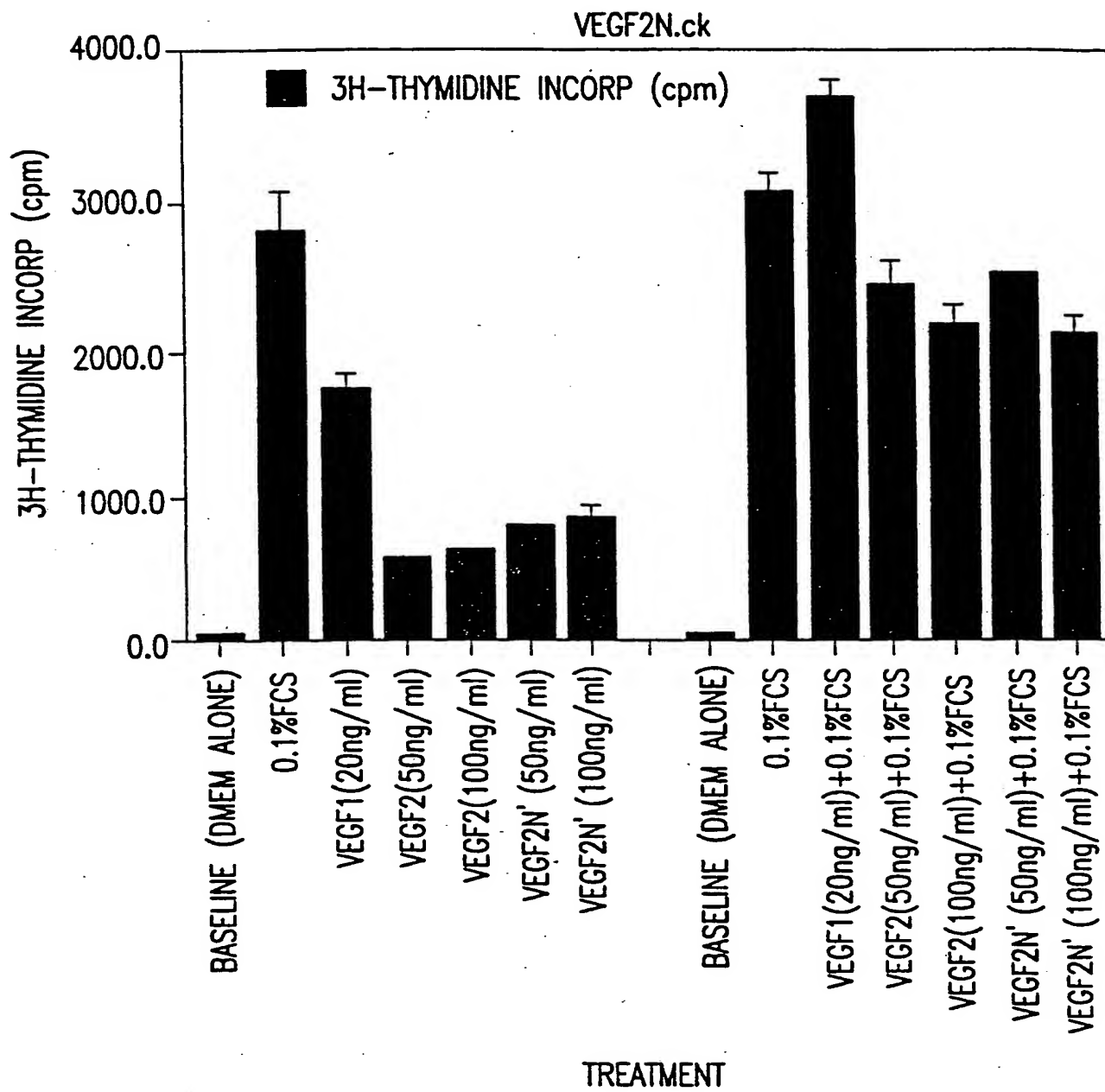


FIG.27

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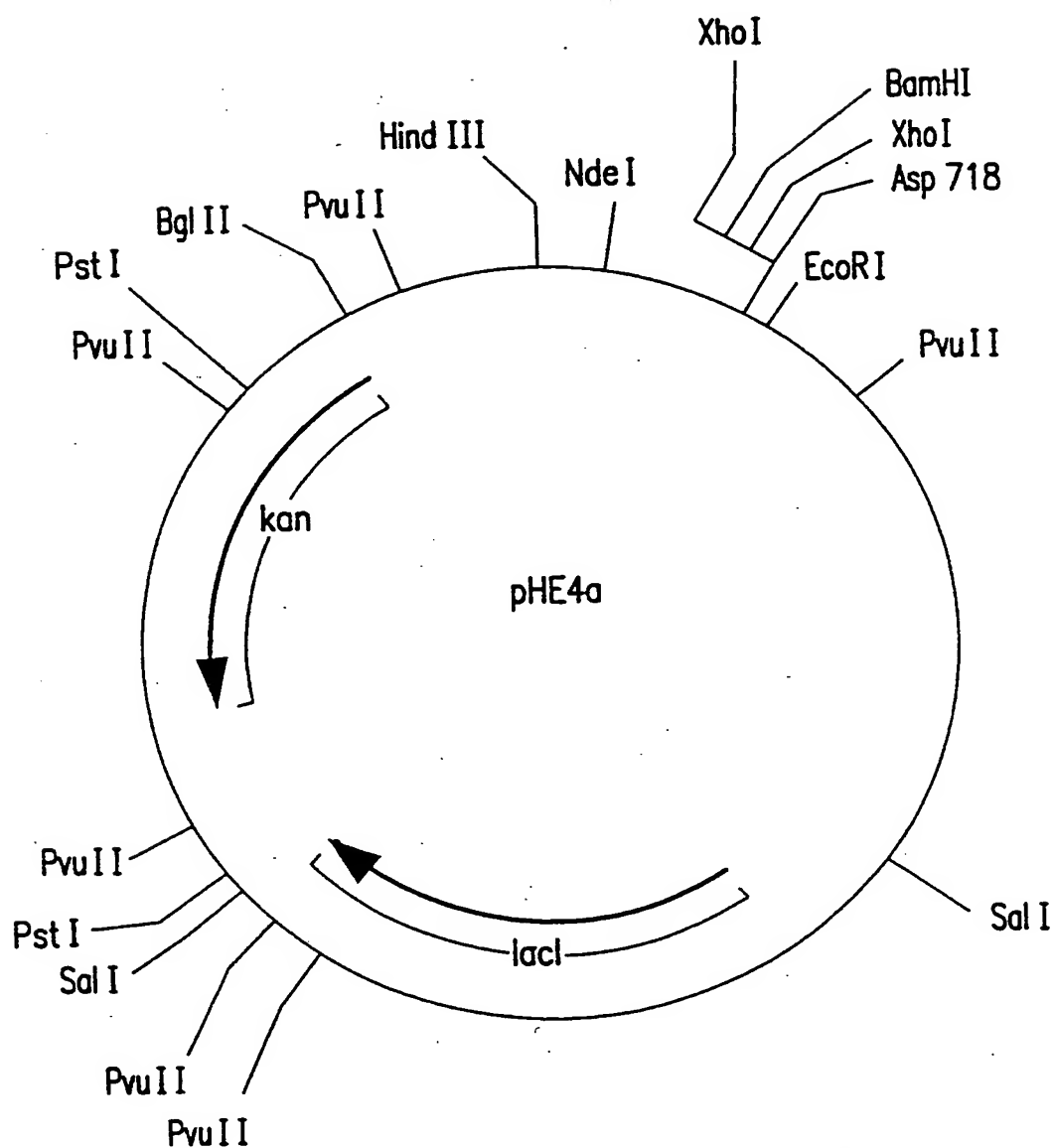


FIG.28

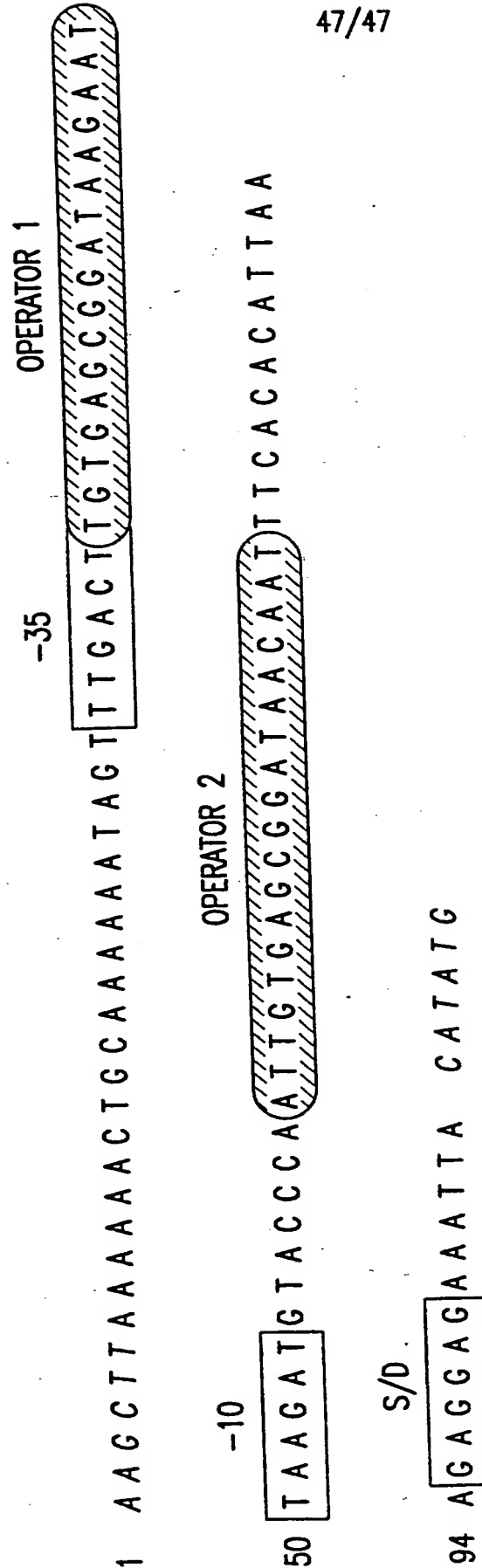


FIG.29